No. 6.— *A Revision of the Lizards of the genus Ameiva.*

By Thomas Barbour and G. Kingsley Noble.

INTRODUCTION.

This paper is based almost wholly upon the collection in the Museum of Comparative Zoölogy; we have, however, had loaned for study some important specimens from other institutions and wish to thank Dr. Leonhard Stejneger and the U. S. National Museum, Henry W. Fowler Esq., and the Academy of Natural Sciences of Philadelphia, as well as Dr. A. G. Ruthven and the Zoölogical Museum of the University of Michigan, for valuable aid. From the two latter institutions we have received important specimens in loan or exchange; from Dr. Stejneger permission to study in Washington the types of *Ameiva polops* and *Ameiva tobagana*, as well as complete sets of photographs and notes of these important specimens for study in Cambridge.

Citations of original descriptions have been omitted, also synonyms, except where these have been changed or added to. Both have already been adequately given in Boulenger's Catalogue of Lizards in the British Museum, **2**, with later changes in Barbour's 'West Indian Herpetology,' Mem. M. C. Z., **44**, no. 2.

Some characters, such as the entry of granules between the gulars and the extent to which they may do so, have been found to be variable and hence have been omitted in drawing up the descriptions. So far as possible all characters which have been found to be really diagnostic have been included. Special attention is called to the fact that, making allowance for the variation connected with age or sex, color-pattern has been found to be of excellent taxonomic value. This statement is made upon the basis of the study of the very extensive series of some races such as *A. ameiva praesignis* and *A. ameiva ameiva*.

GENERAL CONSIDERATIONS.

The genus Ameiva, because it ranges widely through the West Indies, Central and South America, is an excellent subject for careful zoögeographic study. Almost every one of the Antilles, which has been carefully collected, has been found to support a peculiar species,

while in Haiti, for example, three species occur in the very same localities. Since for a very long time there has been and is, especially just at present, considerable controversy regarding the origin of the Antillean fauna, we digress at some length regarding the light which a study of the species throws on the question.

Bland (Ann. Lyc. nat. hist. N. Y., 1862, **7**, p. 335) was among the first workers in the field of Antillean zoögeography, studying the relationships of the Mollusca of the different islands. His division of the region into faunal areas is interesting because his groupings agree well with those of other writers who have based their conclusions on other data. Bland proposed the following areas:—

1. Cuba and the Isla de Pinos, Bahamas, and Bermudas. 2. Jamaica. 3. Haiti. 4. Puerto Rico and Vieques, the Virgin Islands, Sombrero, Anguilla, St. Martins, St. Bartholomew, and St. Croix. 5. The southern Lesser Antilles, embracing those south of St. Bartholomew to and including Trinidad.

This grouping of the islands is by no means inconvenient, but it is quite incorrect to conceive that these areas really represent zoögeographic entities, or to say that they are anything more than expressions of the close similarity of some species in certain chosen groups. Our thesis is that the West Indian region taken as a whole has a singularly compact, homogeneous fauna, the same elements appearing on island after island. This fact is perhaps the most conclusive single argument against the theory of the origin of the fauna by flotation. Several recent writers, among whom may be mentioned Allen (Bull. M. C. Z., 1911, **54**, p. 175–263) and Barbour (Bull. M. C. Z., 1910, **52**, p. 273–301; and Mem. M. C. Z., 1914, **44**, p. 209–347) have been especially active in advocating the interpretation which required a presumed connection of the Antilles with the mainland and with each other to explain the present faunistic conditions. The most able of those who advocate the theory of haphazard population by flotsam and jetsam methods is W. D. Matthew, who has recently summarized his views in a scholarly review entitled Climate and evolution (Ann. N. Y. acad. sci., 1915, **24**, p. 171–318; p. 205, p. 290). In general, the majority of recent naturalists, among them Stejneger, Gadow, and Schaff, are opposed to Matthew's thesis.

This revision, which is a detailed study of a single genus of strictly terrestrial teid lizards, shows clearly the close relationship and origin from a common stock of many of the Antillean forms. The data derived from this study seem to argue strongly against the flotsam and jetsam theory. Stejneger (Rept. U. S. N. M. for 1902, 1904,

p. 562) and Barbour (Mem. M. C. Z., 1914, **54**, p. 326) have suggested that the Antillean Ameivas were derived from a centre of dispersal in northeastern South America, and that they have spread thence northward over a continuous land area to the Greater Antilles. Proceeding northward along the islands we find species which show a gradual transition in morphological characters, and there is no obvious break in the series, except where the evidence is wanting, as for example where the species on Dominica seems very different from that of St. Vincent, we must remember that the form which formerly inhabited Martinique is undescribed zoölogically and is probably now extirpated by the mongoose. This gradual transition, as we have said, points to a land migration and not to distribution by flotation. The latter means would not account for the presence of the genus upon so many islands, without presupposing an enormous amount of rafting. Such a constant flotation would have kept new immigrants coming to the islands already populated, as well as to those as yet without Ameivas, and would surely have tended to keep the whole Antillean group of individuals more homogeneous than they are. There is no real reason for supposing that there was more carriage in the past than at present. Then the derivation would probably have been from several stocks, whereas the Lesser Antillean Ameivas are all derived from the *Ameiva ameiva* stock, the Antillean and mainland races having probably had a common origin from an ancestral widespread stock which became differentiated as the stations occupied became separated. The comparatively fixed characters observed among the individuals of the island races stand at sharp contrast to the great variability of the same characters in the mainland races, and this points to a long complete isolation. Interchange of individuals between the islands is unthinkable on any basis, as their physical geographic characters make the setting free of rafts impossible. By the flotsam theory individuals must have reached all islands by rafts directly from mainland rivers.

Gadow (P. Z. S., 1906, p. 277–375) has shown that the closely related genus Cnemidophorus is composed of species having remarkably variable characters and that it is necessary to consider the sum of the distinguishing features when comparing two forms. Similarly in Ameiva too great stress cannot be laid upon a single character within a species, especially upon the mainland. This variability may make two species, probably but distantly related, appear closely similar. Some of these curiously close resemblances between widely separated forms may be mentioned, as they are interesting from an

evolutionary point of view. *Ameiva vittipunctata* in size, in certain color-pattern features, and in many details of scutation, is similar to *A. erythrocephala;* a species with which it doubtless has but a rather distant relationship. *Ameiva exul* has its nostril between the two nasal plates, a character typical of the mainland and southern Lesser Antillean species, but otherwise it is not anomalous. The characters which in general we have found to be most constant in species of this genus are to be seen among the supraoculars, gulars, antebrachials, brachials, postbrachials, ventrals, and tibials.

In view of this variability noticeable in the island, and greatly exaggerated in the mainland, forms, we must either recognize a number of subspecies or merge all of the mainland races into five or six species. To do this, especially since we find that some variations have a definite relationship to their distribution, would be to obscure the true state of affairs, especially since we find that in some of these races speciation has far advanced and the appearance of any barrier to an interchange of individuals would doubtless result in the fixation of a valid species in a short time. We therefore recognize several subspecies of *Ameiva ameiva,* two of *A. undulata,* and one of *A. bifrontata.*

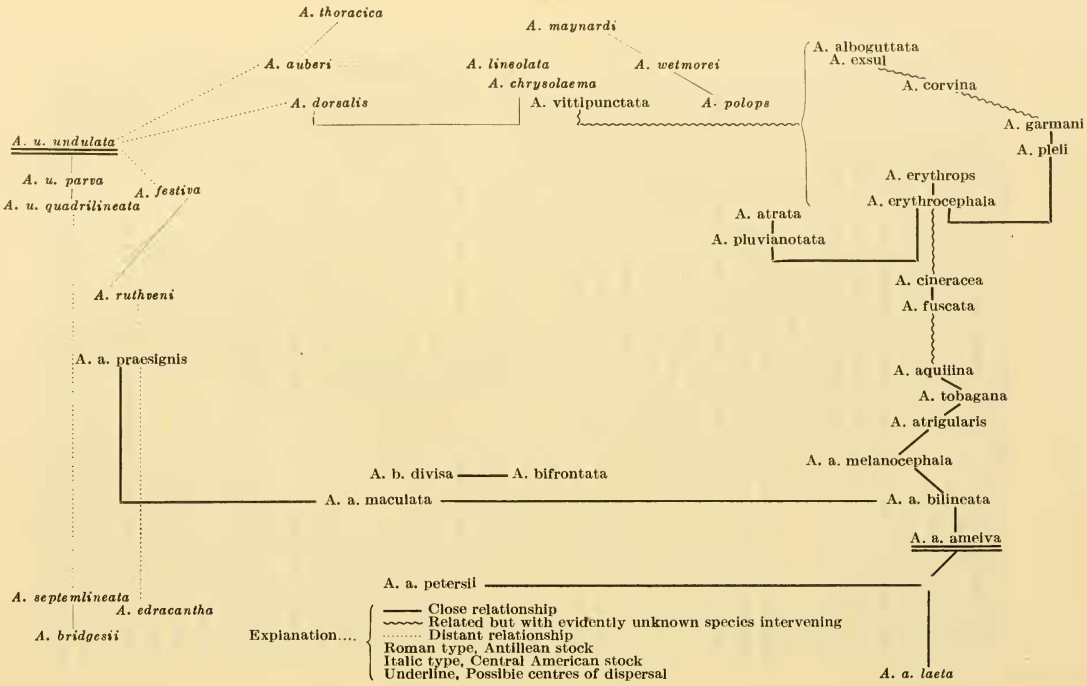
The whole question of explaining the origin of this genus and its dispersal is difficult and unsatisfactory. We may say, fairly that Ameiva and its possible offshoot Cnemidophorus represent the most generalized, perhaps the most primitive existing representatives of the characteristic American family Teiidae. Of the geologic history of this family we know really nothing; we can only postulate its origin by saying that along with the much more archaic Xantusiidae the Teiidae probably arose in America from early immigrants of the same stock which in the old world has given rise to the Varanidae. That this migration took place from eastern Asia to America by way of the Bering Strait land bridge is not improbable. Change of climate then probably forced the ancestral teiids southward and they flourished and are now wholly confined to the tropics, except *Cnemidophorus sexlineatus,* which has invaded secondarily the Austroriparian zone of North America, and a few which have pushed into temperate South America. Our study leads to the conclusion that the existing Ameivas have not all arisen in one region as Gadow shows was most probable for the Cnemidophori, but rather that they have probably spread from two centres. We submit then that probably some widespread ancestral Ameiva-like stock left two relict types, one of which gave rise to *A. undulata* and its allies, and the other *A. ameiva* and its relatives. The difficulty with this explanation is the fact that part of Central

America was under water probably while this ancestral stock was migrating, but a short period of emergence or the presence of an ancient land mass joining north Central and northwest South America, but lying to the westward of the present Middle America, would have made possible the migration. This land mass, the existence of which we have suggested, has been postulated by various other writers on other grounds. The sinking of this area would then have left the *A. undulata* allies free to distribute themselves in Central America as it assumed its present form and also to reach the Greater Antilles while they were in connection with Central America. The temporarily isolated South American stock then spread widely through the continent and passed into Antillea extending to Haiti. Finally with the completion of the appearance of lower Central America in its present form, we find it invaded by the *Ameiva ameiva* types in the form of *A. praesignis*, while western South America received some immigrant representatives of *A. undulata*, which on reaching this region so peculiarly favorable for speciation in reptiles became transformed into the curious and hardly recognizable *A. edracantha* and *A. bridgesii*. The latter of these reached Gorgona Island off the Colombian coast.

An alternative would have been to conclude that possibly the genus arose in Antillea and spread to Central and South America, but this seems hardly likely in view of the definite grouping of the species about the two prominent mainland types.

Two other stocks remain to be mentioned, which show a somewhat anomalous condition. The *maynardi-wetmorei-polops* group does not seem to show any very close relationship with the other species, and we can only conclude that these three very distinct species all represent chance survivors from some stock which once had a wider distribution, but which has completely disappeared. The other anomaly is afforded by *Ameiva bifrontata* and its subspecies *divisa*. These are not very dissimilar to *Ameiva ameiva*, but yet occur side by side with other races which are probably more closely related to *Ameiva ameiva* than either of them are. Whether these represent the survivors of a primary unsuccessful elaboration of *Ameiva ameiva* itself or are the remnants of some other stock, which in the same environment has come to look much like *Ameiva ameiva*, it is impossible to say. One gropes in the dark in treating all of this problem. It is even far from easy to surmise which are the more primitive types, while, of course, we know but little of skeletal variation within the group and there is no particular object to seek it out when it cannot be applied to palaeontology. How sadly different are the opportunities for the mammalogist and the herpetologist in essaying studies of this sort.

DIAGRAM OF THE PRESENT DISTRIBUTION OF THE GENUS AMEIVA.



Although no very satisfactory conclusions, perhaps, can be reached regarding the main question of the origin of the species of this genus, nevertheless one feature stands out strongly and clearly, and this is that the distribution of the Antillean species show by their relationship to one another and to the mainland types that they arose from an orderly progressive migration, such as would only be possible over a continuous area of land, and in no wise display the haphazard character which would be the only possible character of a flotsam and jetsam fauna. When we remember that the Ameivas of twenty-six different islands are already known, this conclusion will in no wise surprise those naturalists who know these creatures in their native haunts. Quick and active, absolutely terrestrial, they are farthest removed in habits from the lizards which we now know are at times moved about fortuitously, probably most often by human agency. The gekkos which hide in or under the bark of trees, enter and abide in human habitations, were from the nature of their secretive ways probably a frequent companion of primitive man while upon his journeyings. The skinks seem also, probably largely on account of their very small size, to have been spread far and wide, especially in the Pacific Island area, by human agency, and with these resistent creatures dispersal by fortuitous flotation probably occurs, but we cannot believe that it ever takes place except under the rarest and most exceptional cases with even these skinks. With other types, so many of which could never be imagined, starting on, surviving, or landing from an ocean voyage taken upon a sodden, water-soaked natural raft, it is quite useless to argue that the enormous length of geologic time makes it possible to say that such flotation may *occasionally* occur even using occasionally in a geologic time sense. That so many, many types would die invariably were they started forth annually or monthly upon a rafting voyage, makes but the more

Explanation of the Diagram.

The diagram, page 422, shows the relationship of the different species in the genus, the name of each race standing with relation to the others in geographic position. Each name occupies a position as near as possible identical with the area its habitat would occupy if the whole diagram were superposed upon a map of the Antillean region, Central America, and South America, the latter somewhat contracted.

improbable the fact that they should arrive at, land upon, survive, and reproduce their kind, upon some distant land, were they permitted to essay this journey but once in a thousand years or even less often. The enormous sum-total of species which make up the fauna of the Antilles, and the many zoölogical groups which are represented upon so many of the islands alone refute the flotation theory. If they did not we could lie-to in the mid-Caribbean and watch the rafts go by, speculating as a pleasant game as to which bore Onychophora and earthworms and which cyprinodonts or Amphibia, wondering how the little ponds in the rafts in which the fresh water fishes, molluscs, and crustaceans would have to be carried, are kept from becoming a bit, only a bit to be fatally, brackish. So much for the message of Ameiva with regard to the problem of the origin of the Antillean fauna.

KEY TO THE SPECIES.

a¹ Caudal scales of adult oblique dorsally.
  b¹ Nostril anterior to nasal suture.
    c¹ Three supraoculars, the first not in contact with the loreal. . . *lineolata.*
    c² Four supraoculars, the first in contact with the loreal. . . . . *maynardi.*
  b² Nostril between the nasal plates.
    d¹ Caudal scales smooth or feebly keeled, whorls not raised posteriorly.
      e¹ Eight longitudinal rows of ventrals. . . . . *wetmorei.*
      e² Ten longitudinal rows of ventrals. . . . . *polops.*
    d² Caudal scales strongly keeled, the keels not parallel to the sides of the scale, whorls raised posteriorly.
      e¹ A single row of large postbrachials, two rows of tibial shields. *festiva.*
      e² Postbrachials small and irregular, three rows of tibial shields. *ruthveni.*
a² Caudal scales of adult straight dorsally.
  b¹ Nostril anterior to nasal suture.
    c¹ Fourteen longitudinal rows of ventrals. . . . . *pluvianotata.*
    c² Less than fourteen longitudinal rows of ventrals.
      d¹ Twelve longitudinal rows of ventrals.
        e¹ Gular scales minutely granular, a broad band of enlarged granules extending across the throat.
          f¹ Tibial shields with largest scale of outer row broader than high; pale spots on body not confluent. . . . . *pleii.*
          f² Tibial shields with largest scale of outer row about as broad as high; pale spots of body confluent. . . . . *garmani*

e² Gular scales uniformly minute, or tending to form a central group of slightly larger ones.
f¹ Uniform dark brown in coloration, gulars not differentiated from each other.
g¹ Frontal and frontoparietals in contact with the third supraocular..... *atrata.*
g² Frontal and frontoparietals separated from the third supraoculars by granules..... *corvina.*
f² Not uniformly colored, gulars differentiated into a median group or band.
g¹ Brachial shields small, scarcely differentiated from the granules of the arm..... *vittipunctata.*
g² Brachials in two or three rows of moderate sized plates. *chrysolaema.*
d² Ten longitudinal rows of ventrals.
e¹ Antebrachials continuous with the brachials..... *dorsalis.*
e² Antebrachials not continuous with the brachials.
f¹ Tibial shields with the second scale of the outer row wider than long; adult with two broad lateral stripes of black.... *thoracica.*
f² Tibial shields with second scale of the outer row not wider than long, adult with dark spots on the sides..... *auberi.*
b² Nostril between the nasal plates.
c¹ More than twelve rows of ventral shields.
d¹ Eighteen longitudinal rows of ventral plates..... *cineracea.*
d² Fourteen longitudinal rows of ventral plates.
e¹ Chin and throat bright flesh color in sharp contrast to the coloration of the neck region.
f¹ Gulars forming a band of enlarged granules extending across the throat..... *erythrops.*
f² Gulars not forming a band, but three groups of enlarged granules. *erythrocephala.*
e² Chin and throat bluish or smoky.
f¹ Nine irregular occipitals..... *fuscata.*
f² Five regular occipitals..... *aquilina.*
c² Less than or just twelve rows of ventral shields.
d¹ More than eight rows of ventrals.
e¹ Twelve rows of ventrals.
f¹ Dorsal granules small.
g¹ Preanal plates minute, and undifferentiated; brachial shields uniform in five or six rows of swollen scales.. *ameiva maculata.*
g² Preanal plates differentiated into a group of larger ones; brachial shields in two or three rows, outer row wider than others.
h¹ Dorsal surface spotted with white or yellow.
i¹ A black band on each side, the edges of which are undulating and have no white margin..... *tobagana.*

i² No lateral black band except in the young and these bands not margined with white.....*ameiva praesignis.*
h² Dorsal surface greenish or olive, often spotted with black.
i¹ Dorsal surface with heavy confluent spots of black.
j¹ Throat sprinkled with a few black spots..*ameiva ameiva.*
j² Throat smoky.
k¹ Brachials in three rows of subequal scales.
atrigularis.
k² Brachials in one row of very large scales and three rows of smaller ones.....*ameiva melanocephala.*
i² Dorsal surface with a few black spots not confluent.
j¹ A broad lateral band of brown on each side of the adult.
ameiva bilineata.
j² Lateral stripe indistinct or wanting..*ameiva petersii.*
f² Dorsal granules large.....*ameiva laeta.*
e² Ten rows of ventral plates.
f¹ A single, part double, row of very large brachials continuous with the antebrachials.
g¹ Three posterior supraoculars surrounded with granules.
bifrontata.
g² Three posterior supraoculars not entirely surrounded with granules.....*bifrontata divisa.*
f² A series of small brachials not continuous with antebrachials.
g¹ Flanks and sides of thighs spotted with pale green, the spots arranged mostly in transverse rows.....*exsul.*
g² Spots much more numerous and covering the back as well as the flanks.....*alboguttata.*
d² Eight or six rows of ventrals.
e¹ Eight rows of ventral plates.
f¹ A distinct median group of enlarged gular scales.
g¹ A single row of large postbrachials.....*undulata undulata.*
g² More than one row of postbrachials irregularly arranged.
h¹ Two irregular rows of postbrachials of moderate size.
undulata quadrilineata.
h² Three irregular rows of postbrachials, the median row much larger than the others.....*undulata parva.*
f² No distinct median group of enlarged gulars.
g¹ Second supraoculars divided longitudinally into several parts.
septemlineata.
g² Second supraocular entire.....*edracantha.*
e² Six rows of ventral plates.....*bridgesii.*

DESCRIPTION OF THE SPECIES.

Ameiva auberi Cocteau.

Description:— Adult male; M. C. Z. 7277. Camaguëy, (Puerto Principe), Cuba; 1908; T. Barbour.

Rostral forming a little more than a right angle behind; nostril on the posterior edge of the anterior nasal; anterior pair of nasals broadly in contact behind the rostral; frontonasal as long as wide in contact with the loreal; prefrontals broadly in contact; frontal in contact with the first and second supraocular; a pair of frontoparietals in contact with the third supraocular for nearly their entire length; five occipitals in a transverse row, the two in contact with the median, largest; seven supraciliaries; three supraoculars, the first separated from the loreal; two posterior supraoculars separated from the supraciliaries by a double row of granules; last supraocular separated from the outer occipitals by three rows of small scales; seven large supralabials; five large infralabials; between the infralabials and chin-shields a wedge of one to three rows of granules extending anteriorly to the first chin-shield; chin and throat covered with granules, an indistinct band of very slightly larger ones extending across the middle, the median ones forming an ill-defined central group of scarcely enlarged scales; on the area between the two throat folds several rows of large hexagonal scales; under side of the body with ten longitudinal and thirty-five transverse rows of plates; preanal plates, two anterior median, and three posterior marginal ones; on the lower arm a double row of antebrachials, one much wider than the other, both decreasing in width towards the elbow joint; on the upper arm a similar but narrower single row of brachials continuous with the antebrachials; on the posterior side near the elbow a small group of enlarged postbrachials; under side of the thighs covered with six or seven series of hexagonal plates of which the outer series is considerably larger than the others; thirteen and fourteen femoral pores; on the under side of the tibia two rows of plates those of the outer row enormously enlarged; upper side of the wrist with a regular series of transverse plates corresponding to the inner and outer metatarsals; outer toe extending approximately as far as the inner; tail covered with straight scales with keels; about thirty-five scales in the fifteenth ring from the base.

Coloration: — Ground color of dorsal surface olivaceous brown, slightly reddish anteriorly, grayer on the tail; three poorly defined narrow stripes of a lighter color on the back; the two lateral stripes

bordered on their outer side by a series of broad, dark brown spots which tend to become confluent; the same two outer pale stripes are bordered on their inner side by a poorly defined and much lighter series of similar dark spots; flanks, sides of head, sides and upper surfaces of the tail and appendages covered with a network of irregular brown patches; ventral surface straw-color; traces of the same color on the head-shields.

Variation: — Females differ but little from the males. A specimen (M. C. Z. 7277) for example is slightly more bluish in tonality than the male described. On each side there is another pale stripe, more bluish in color, added to the three dorsal ones, and extending along the sides of the tail. The under surfaces of the body are light blue-green except for the appendages which are suffused with straw-color.

Young specimens often vary considerably from the adult. A specimen (M. C. Z. 6920) has on each flank two black bands edged with white while a narrow white line runs the length of the back in the median region. These lines are all very clear cut. The under side of the chin and throat varies from smoky to blackish, while traces of the same color extend down over the abdomen.

Remarks:— The description was made of a full grown male that measured seventy-seven millimeters from snout to vent.

Habitat:— Widely distributed throughout the whole of Cuba and the adjacent Isla de Pinos, but not very abundantly.

List of specimens examined.

M.C.Z. No.	No. of specimens	Ages	Sexes	Locality	Date	Collector	Remarks
6920	3	all	♂	Santiago, Cuba	1904	W. Robinson	Descrip. of im.
7277	2	ad.	both	Camaguëy, Puerto Principe, Cuba	1908	T. Barbour	Descrip. of ♂ & ♀
4388	1	"	♀	Bahia Honda, Cuba	1879	S. Garman	
7937	1	im.	♀	Cojimar, Havana, Cuba	1912	T. Barbour	
7938	1	"	♀	San Diego de los Baños, Cuba	1912	T. Barbour	
10823	1	ad.	♀	Guane, Cuba	1915	T. Barbour and W. S. Brooks	
10919–10923	5	all	both	Nueva Gerona, Isla de Pinos		T. Barbour and W. S. Brooks	
10868	1	ad.	♂	Cabo San Antonio, Cuba		C. de la Torre	

Ameiva dorsalis Gray.

Description:— Adult male; M. C. Z. 7334. Kingston, Jamaica; 1908; T. Barbour.

Rostral forming an acute angle behind; nostril on the posterior border of the anterior nasal; anterior pair of nasals just in contact behind rostral; frontonasal as long as wide, in contact with the loreal; prefrontals just in contact; frontal in contact with the first and second supraoculars; a pair of frontoparietals in contact with the third supraocular anteriorly; five occipitals in a transverse row, the two in contact with the median largest; seven and eight supraciliaries; three supraoculars, the first separated from the loreal; last two supraoculars separated from the supraciliaries by one or two rows of granules; posterior supraocular separated from the outer occipitals by two rows of large granules and a group of smaller ones; six large supralabials; five or six large infralabials; between infralabials and chin-shields a wedge of one to three granules extending anteriorly to the postmental; chin and throat covered with minute granules, an indistinct band of a trifle larger ones extending across the middle, on the area between the two throat folds several rows of large hexagonal scales; under side of the body with ten longitudinal and thirty-five transverse rows of plates; preanal plates three, the median forming a triangle, two smaller ones at the basal angles; on the lower arm a double row of antebrachials, one very wide, both breaking up into granules near the elbow joint; on the upper arm a single row of narrower, more spherical brachials not continuous with the antebrachials, on the posterior side near the elbow a row of enlarged postbrachials; under side of the thigh covered with four or five series of hexagonal plates of which the outer series is considerably larger than the others; twenty-one and twenty-two femoral pores; on the under side of the tibia two rows of plates, the outer ones being twice as large as the inner; upper side of the wrist with a regular series of transverse plates corresponding to the inner and outer metatarsals; outer toe extending a trifle further than the inner; tail covered with straight keeled scales; about forty scales in the fifteenth ring from the base.

Coloration: — Ground color of dorsal surface olive varying to blue posteriorly; a pale light blue stripe in the middorsal region beginning just behind the occiput and gradually widening to the tail; on the sides a double row of light spots somewhat confluent into two longitudinal stripes; a series of black confluent blotches among the lateral stripes; ventral aspect light yellow-blue anteriorly, varying posteriorly into a checker pattern of dark ultramarine and light yellow-blue spots especially distinct laterally.

Variation: — The female and the young are very similar to the male in coloration; but, although the pattern is the same, the colors are much richer. In the female the dark blotches of the sides are more numerous and confluent than those of the male, while in the young these dark areas are so much increased that they often surround the light spots and make a dark background for them as for example in the specimen M. C. Z. 7334 (same data as above). Ventrally, the young have a wash of turquoise-blue varying to yellow instead of the checker pattern.

Remarks:— The description was taken from a full grown adult male that measures eighty-nine millimeters from snout to vent.

Habitat:— Confined to Jamaica where it has become rare, because of the introduced mongoose.

List of specimens examined.

M.C.Z. No.	No. of specimens	Ages	Sexes	Locality	Date	Collector	Remarks
7334	10	all	both	Kingston, Jamaica	1908	T. Barbour	Descrip. ♂
5440	8	all	both	Kingston, Jamaica	1879	S. Garman	

AMEIVA THORACICA Cope.

Description:— Adult male; M. C. Z. 6965. New Providence Island, Bahamas; 1904; T. Barbour.

Rostral forming approximately a right angle behind; nostril on posterior part of the anterior nasal; anterior pair of nasals broadly in contact; frontonasal as long as wide, in contact with the loreal; prefrontals in contact broadly; frontal in contact with the first and second supraoculars; a pair of frontoparietals in contact with the third supraocular for nearly its entire length; five occipitals in a transverse row, the two in contact with the median slightly larger; seven supraciliaries; three supraoculars, the first separated from the loreal; two posterior supraoculars separated from the supraciliaries by a single row of granules, last supraocular partly by a double row; last supraocular separated from the outer occipitals by a double row of small scales; five and six large supralabials; six and seven large infralabials; between the infralabials and chin-shields a wedge of one to three rows of granules extending anteriorly to the postmental; chin and throat covered with minute granules, an indistinct band of

very slightly larger ones extending across the middle; on the portion between the two throat folds several rows of large hexagonal scales; under side of the body with ten longitudinal and thirty-five transverse rows of plates; preanal plates in a subtriangular group of large scales irregularly arranged, but having four scales on the base and being three scales in height; on the lower arm a double row of small antebrachials and a single row of large ones, all gradually diminishing in size toward the elbow joint; on the upper arm a single row of brachials almost continuous with the antebrachials; on the posterior side near the elbow a single row of enlarged postbrachials; under side of thigh covered with six or seven series of hexagonal plates of which the outer series is considerably larger than the others; fourteen femoral pores; on the under side of the tibia two rows of plates, those of the outer being enormously enlarged; upper side of the wrist with a regular series of transverse plates corresponding to the inner and outer metatarsals; fifth toe extending approximately as far as the inner; tail covered with straight scales with keels; about thirty-five scales in the fifteenth ring from the base.

Coloration: — Ground color of dorsal surface olive-brown with traces of blue-gray posteriorly; on each side a rather wide black stripe becoming narrow anteriorly, extending posteriorly half the length of the tail; the black stripe on each side set off by two marginal stripes of pale blue; lower flanks and ventral surface turquoise-blue of low intensity; most of the throat, chest, and abdomen washed with black, darkest in the gular fold region; chin-shields, palms, lower surfaces of feet, lower side of tail washed with yellow.

Variation: — The female and young are very similar to the adult males except that the colors are brighter and the pattern more distinct. The pale margin of the lateral black bands become whitish anteriorly. There is often added a median stripe of pale blue-gray running the length of the back. Young specimens sometimes have no black throat, then the whole ventral surface is pale blue.

Remarks:— The description was made of an adult male that measured one hundred and eleven millimeters from snout to vent.

Habitat:— Common throughout its limited range which includes the Bahaman Islands of New Providence, Eleuthera, and Andros. It has been reported from Great Abaco but was not found there by the Harvard Bahama Expedition of 1904.

List of specimens examined.

M.C.Z. No.	No. of specimens	Ages	Sexes	Locality	Date	Collector	Remarks
6965	14	all	both	New Providence Island, Bahamas	1904	T. Barbour & G. M. Allen	Descrip.
7096	9	all	both	New Providence Island, Bahamas	1904	A. E. Wight	
6948	6	all	both	Mangrove Cay, Andros Island, Bahamas	1904	O. Bryant	
5823	3	ad.	♂	Bahamas	1886	C. J. Maynard	
6243	2	ad.	♂	New Providence Island, Bahamas	1888	C. S. Dolley	
6912	1	ad.	♂	New Providence Island, Bahamas	1900	T. Barbour	

Ameiva chrysolaema Cope.

Description:— Adult male; M. C. Z. 8622. Manneville, Haiti; 1913; W. M. Mann.

Rostral forming an acute angle behind; nostril on the posterior part of the anterior nasal; anterior pair of nasals broadly in contact behind rostral; frontonasal as long as wide, in contact with the loreal; prefrontals broadly in contact; frontal in contact with the first and second supraocular; a pair of frontoparietals separated from the third supraocular by a row of granules; five occipitals in a transverse row the three median ones about the same size and very much larger than the outer ones; three large supraciliaries and four or five smaller ones; four supraoculars, the first separated from the loreal; three posterior supraoculars separated from the supraciliaries by a double row of granules; five and six large supralabials; six and seven large infralabials; between infralabials and chin-shields a wedge of one to three rows of granules extending anteriorly to the postmental; chin and throat covered with minute granules; a scarcely differentiated band of large scales extending across the mid-region of which the median granules are largest; on the area between the two throat folds there are a few rows of large hexagonal scales; under side of the body with ten longitudinal and thirty-six transverse rows of plates; preanal plates in a triangular group four scales wide at the base and three scales in height, the larger scales in the middle; on the lower arm a double row of antebrachials, one very much wider than the other, both breaking up in the mid-region into six or seven series of small scales; on the upper arm two rows, proximally three rows of

brachials; on the posterior side near the elbow a small group of enlarged postbrachials; under side of thighs covered with six or seven series of hexagonal plates of which the outer series is somewhat larger than the others; seventeen and eighteen femoral pores; on the under side of the tibia three rows of plates, distally four rows, the third and fourth plate of the outer row considerably enlarged; upper side of the wrist with a regular series of transverse plates covering only the outer region; outer toe extending a little further than the inner; tail covered with straight scales with keels; about forty-five scales in the fifteenth ring from the base.

Coloration: — Ground color of dorsal surface blue-gray; pattern of coloration like *A. vittipunctata* but the seven dorsal white lines running the length of the back broken up into a series of indistinct more or less confluent spots; on each side a rather indistinct black band sharply bordered by the broken white lines; ventral surface somewhat like *A. erythrocephala* in having a pale throat in distinct contrast to a dark chest and abdomen, but the throat is bluish instead of flesh-color, and the gular folds and chest are dark blue-gray suffused laterally by a brighter tone of blue; ventral surface washed posteriorly with straw-color.

Variation: — Another specimen, a female (M. C. Z. 8631) differs from the male in having the dark lateral bands more distinct and the longitudinal series of spots more nearly fused into lines as in *A. vittipunctata.* A young specimen (M. C. Z. 8629) is similar to the adult male except that the under parts are uniform blue-gray.

Remarks:— The description was made of an adult male that measured one hundred and one millimeters from snout to vent.

Habitat:— Confined to Haiti where it is still common.

List of specimens examined.

M.C.Z. No	No. of specimens	Ages	Sexes	Locality	Date	Collector	Remarks
8621–33	13	all	both	Manneville, Haiti	1913	W. M. Mann	Descrip.
6292	1	ad.	♀	Haiti			
8649–59	11	all	both	Diquini, Haiti	1913	W. M. Mann	

Ameiva lineolata Dumeril et Bibron.

Ameiva taeniura Cope, Proc. Acad. nat. sci. Phila., 1862, p. 63. Boulenger, Cat. lizards Brit. mus., 1885, **2**, p. 350.

Description:— Adult male; M. C. Z. 8691. Diquini, Haiti; 1913; W. M. Mann.

Rostral forming a trifle more than a right angle behind; nostril on posterior part of anterior nasal; anterior pair of nasals broadly in contact behind rostral; frontonasal longer than wide in contact with the loreal; prefrontals broadly in contact; frontal in contact with the first and second supraoculars; a pair of frontoparietals in contact with the third supraocular for their entire length; five occipitals in a transverse row, the two in contact with the median largest, seven supraciliaries; three supraoculars, the first separated from the loreal; two posterior supraoculars separated from the supraciliaries by a single, part double row of granules, last supraocular separated from the outer occipitals by two rows of granules and a small scale; five large supralabials; five large infralabials; between infralabial and chin-shields a wedge of one to three rows of granules extending anteriorly to the postmental; chin and throat covered with minute granules, a band of somewhat larger ones extending across the middle; on the area between the two throat folds a few rows of large hexagonal scales; under side of body with eight longitudinal rows (ten including the small scales), and thirty-four transverse rows of scales; preanal plates in a triangular group of three large plates, anteriorly two smaller plates in a transverse line; on the lower arm a double row, one very wide, of antebrachials decreasing in width toward the elbow joint; on the upper arm a similar but narrower single row of plates continuous with the antebrachials; on the posterior side near the elbow a small group of slightly enlarged postbrachials; under side of the thighs covered with four or five rows of hexagonal plates of which the outer series is considerably larger than the others; fifteen femoral pores; on the under side of the tibia two rows of plates, those of the outer much the larger; upper side of the wrist with a regular series of transverse plates corresponding to the inner and outer metatarsals; outer toe extending about as far as the inner; tail covered with keeled, oblique scales dorsally, with smooth straight scales laterally and ventrally; about twenty-eight scales in the fifteenth ring from the base.

Coloration: — Ground color of dorsal surface very dark olive-gray, head slightly darker; flanks black; two rather widely separated, narrow white bands on each side, the superior starting from the supraciliaries and the inferior from the ear, both extending half way down the tail; a row of indistinct white spots between these white stripes; lower flanks profusely spotted with white or bluish, the spots arranged more or less in vertical rows; ventral surface pale straw-color suffused with dull blue-gray, edges of the shield lightest; chin-shields and under sides of legs more straw-color.

Variation: — A female (M. C. Z. 8693, same data as above) is similar to the male except that there are no white spots on the lower flanks. A young specimen (M. C. Z. 8742, Manneville, Haiti, 1913,

W. M. Mann) shows the extreme of variation in the juvenile stages. The whole dorsal and lateral surfaces are jet black. Eleven, narrow whitish or milky stripes run longitudinally on the back and sides, the median one starting just behind the shoulders, the two adjacent ones coming to an apex about mid-way between the shoulders. The remaining eight stripes are nearly parallel, four arising on each side from the supraoculars, the supraciliaries, the upper and lower corners of the eye, respectively. The ventral surface is pale straw-color, suffused with deep blue on the tail. A slight wash of smoky covers the abdomen. The dorsal surface of the legs are spotted with white.

Remarks:— The specimen from which the description was taken was an adult male that measured eighty-six millimeters from snout to vent.

A careful examination of a series of twelve specimens of this species makes it clear that *A. taeniura* is the adult of *A. lineolata.* The specimens have a wide range of variation both in color and scutation. According to Cope (Proc. Acad. nat. sci. Phila., 1862, p. 64) the distinguishing characters of *A. taeniura* are mainly of color and tail scutation. One, however, of the specimens before us has the typical nine white bands, and keelless caudal plates of *A. lineolata.* Another specimen shows the extreme variation in this direction by having eleven dorsal bands and keelless caudal scales. Representing the other extreme are six specimens having the characteristic lateral bands and keeled scales of the tail of *A. taeniura.* The remaining individuals have the coloration of *A. lineolata* but the keeled caudal scales of *A. taeniura.* These characters grade into one another and all the intermediate steps are present. Garman (Bull. Essex. inst., 1887, **19**, p. 11) noticed the variation in the tail scutation, but pointed out the larger preanals, and the smaller mesotychium scales as characterizing *A. taeniura.* The larger series of specimens shows that these characters are not at all constant, and among the specimens there are many variations.

Dumeril et Bibron (Erpet gen., 1839, **5**, p. 119) in describing *A. lineolata* possessed but a single young specimen as shown by their measurements and by Bocourt's figures of the type (Miss. sci. Mex. Rept., pl. xxa, fig. 5). In our specimens, also, it is always the smaller individuals that have the typical *A. lineolata* characters.

Habitat:— Confined to Haiti where it is widely spread throughout both the republics.

List of specimens examined.

M. C. Z. No.	No. of specimens	Ages	Sexes	Locality	Date	Collector	Remarks
8691–95	5	all	both	Diquini, Haiti	1913	W. M. Mann	Descrip.
8742	1	yg.	♀	Manneville, Haiti	1913	W. M. Mann	Descrip. of young.
3614	3	ad.	both	Jeremie, Haiti	1859	D. F. Weinland	Type of *A. taeniura.*
5441	1	ad.	♂	Puerto Plata, San Domingo	1885	M. A. Frazar	
3608	5	all	both	Jeremie, Haiti		D. F. Weinland	
3609	1	ad.	♂	Jeremie, Haiti		D. F. Weinland	

AMEIVA VITTIPUNCTATA Cope.

Description:— Adult male; M. C. Z. 8618. Manneville, Haiti; 1913; W. M. Mann.

Rostral forming an acute angle behind; nostril on posterior part of anterior nasal; anterior pair of nasals in contact for but a fraction of their length behind rostral; frontonasal as long as wide in contact with the loreal; prefrontals narrowly in contact; frontal in contact with the first and second supraoculars; a pair of frontoparietals in contact with the third supraocular anteriorly; five occipitals in a transverse row, the median slightly larger than the others; seven and eight supraciliaries; three large supraoculars and a small scale posterior to them, the first supraocular separated from the loreal, two posterior supraoculars separated from the supraciliaries by a double row of granules; last supraocular separated from the outer occipitals by two rows of small scales and several rows of granules; five and six supralabials; five large infralabials; between the infralabials and the chin-shields a wedge of one to three rows on granules extending anteriorly to the postmental; chin and throat covered with granules, a band of slightly enlarged scutes extending across the middle, the median ones forming a distinct group of slightly larger ones; on the area between the two throat folds several rows of large hexagonal scales; under side of the body with twelve longitudinal and thirty-eight transverse rows of plates; preanal plates in a marginal row of eight scales, median smallest, and in a double median series of about four pairs; on the lower arm two narrow, one very wide, rows of antebrachials separated from the brachials by several rows of small scales;

on the upper arm three rows of brachials somewhat larger but grading into the granules of the arm; on the outer side near the elbow a group of postbrachials poorly differentiated from the granules of the arm; under side of the thighs covered with seven or eight series of plates in the mid-region, the outer series considerably larger than the others; nineteen femoral pores; on the under side of the tibia three rows of plates, the second and third scale of the outer row considerably enlarged; upper side of the wrist granular; outer toe extending a little further than the inner; tail covered with straight scales with keels; about forty-two scales in the fifteenth ring from the base.

Coloration: — General tonality dark olive-gray; six narrow whitish stripes and part of a seventh, running the length of the back; the space between the two innermost stripes the lightest, and that between the two outermost on each side the darkest — almost black; beneath the lowest stripe on the flanks a series of pale bluish spots arranged somewhat in longitudinal rows; ventral surface straw-color washed laterally with light blue-gray.

Variation: — The female and young are similar to the adult male except that their colors are brighter and the pattern is more distinct.

Remarks:— The description was made of an adult male that measured one hundred and eighteen millimeters from snout to vent.

Habitat:— Widely distributed throughout San Domingo and Haiti, but peculiar to the island.

List of specimens examined.

M. C. Z. No.	No. of specimens	Ages	Sexes	Locality	Date	Collector	Remarks
8614–19	6	all	both	Manneville, Haiti	1913	W. M. Mann	Descrip.
8634–44	11	all	both	Momance, Haiti	1913	W. M. Mann	

Ameiva maynardi Garman.

Description:— Adult male; Type M. C. Z. 6225. Great Inagua, Bahamas; 1888; C. J. Maynard.

Rostral forming about a right angle behind; nostril on posterior part of anterior nasal; anterior pair of nasals broadly in contact; frontonasal wider than long in contact with the loreal; prefrontals broadly in contact; frontal in contact with the first three supraoculars; a pair of frontoparietals in contact with the third and fourth supraoculars; five large occipitals in a transverse row, the median slightly the largest; seven supraciliaries; four supraoculars the first in contact

with the loreal; three posterior supraoculars separated from the supraciliaries by a single row of granules; last supraocular separated from the outer occipitals by a double row of small scales; five large supralabials; five large infralabials; between infralabials and chin-shields a wedge of three or four small scales extending only to the third infralabial; chin and throat covered with granules of slightly varying size, no distinct grouping of the larger granules; on the area between the two throat folds several rows of large hexagonal scales; under side of the body with eight longitudinal rows of scales (ten including the large granules terminal on each cross row) and thirty-five transverse rows; preanal plates, a pair of large marginal ones and a median pair of about the same size; on the lower arm a single, partly double row of antebrachials breaking up into granules just before reaching the elbow joint; on the upper arm a single row of much narrower brachials; on the posterior side near the elbow joint a double row of postbrachials scarcely differentiated from the granules of the arm; under side of the thigh covered with three rows (four proximally) of hexagonal plates of which the outer series is larger than the others; twelve femoral pores; on the under side of the tibia two rows of plates, the outer row greatly enlarged; upper side of the wrist with an irregular, part regular, series of transverse plates; outer toe extending a little further than the inner; tail covered with smooth, oblique scales; about thirty scales in the fifteenth ring from the base.

Coloration: — General tonality milky, slightly olive on the head, grayer on the tail; three dark brown or blackish bands running the length of the body but not extending on the tail; the median dark band arises in the occipital region and extends not so far as the thigh; the two lateral dark bands arise just before the eye and extend backward covering nearly all the flanks; ventral surface including the lower part of the flanks whitish tinged with blue; under surface of the tail, and the gulars tinged with greenish.

Variation: — The female and young differ from the adult males in being generally brighter, that is in being more black and white.

Remarks:— The description was made of an adult male that measured sixty-six millimeters from snout to vent.

Habitat:— Confined to Great Inagua in the southern Bahamas.

List of specimens examined.

M.C.Z. No.	No. of specimens	Ages	Sexes	Locality	Date	Collector	Remarks
6225	3	all	both	Great Inagua, Bahamas	1888	C. J. Maynard	Types Descrip.
10958	2	ad.	both	Great Inagua, Bahamas		W. W. Worthington	
10959							

Ameiva exsul Cope.

Description:— Adult male; M. C. Z. 2746. St. Thomas, D. W. I.; 1872; L. Agassiz.

Rostral forming an acute angle behind; nostril between the two nasals; anterior pair of nasals narrowly in contact behind rostral; frontonasal longer than wide in contact with the loreal; prefrontals broadly in contact; frontal in contact with the first and second supraoculars, just touching the third; a pair of frontoparietals in contact with the third supraocular anteriorly; five occipitals in a transverse row, the median largest; six or seven supraciliaries; four supraoculars, the first separated from the loreal; three posterior supraoculars separated from the supraciliaries by a double row of granules; last supraocular separated from the outer occipitals by three rows of granules; six large supralabials; five large infralabials; between the infralabials and chin-shields a wedge of from one to three granules extending anteriorly nearly to the postmental; chin and throat covered with minute granules, a faintly indicated band of slightly larger ones extending across the middle in which again the median ones form an ill-defined central group of somewhat enlarged scales; on the area between the two throat folds several rows of larger hexagonal scales; under side of the body covered with ten longitudinal and thirty-five transverse rows of plates; three large preanal shields forming a triangle; on the lower arm a series of very wide plates decreasing in width toward the elbow joint to form several rows of smaller hexagonal scales; on the upper arm a similar but narrower series of brachials not continuous with the antebrachials; on the posterior side near the elbow a small group of enlarged scales; under side of thighs covered with six or seven series of hexagonal plates of which three rows are considerably larger than the others; fourteen to fifteen femoral plates; on the under side of this tibia two rows of plates, two plates of the outer row enormously enlarged; upper side of the wrist with a regular series of transverse plates corresponding to the inner and outer metatarsals; outer toe extending about as far as the inner; tail covered with straight, keeled scales; about forty-three scales in the fifteenth ring from the base.

Coloration: — Ground tone of dorsal surface dull olive-green becoming more olive on the head and grayer on the tail; posterior part of the back with slight traces of black penciling; flanks, sides and upper surfaces of legs, and sides of tail spotted with pale blue-green, the spots arranged mostly in a series of transverse rows; on each flank a series of large irregular black spots; ventral surface straw-color, grayer on gulars, suffused along the sides with turquoise-blue.

Variation: — The females and young differ in general from the adult males by the presence of a pale line margined with blackish on each side of the body. In several specimens the pale line is indistinct and only the broad dark bands are present. Females are generally browner than the males and have a series of narrow blackish cross-bars on the back and flanks the interspaces of which are filled with roundish spots of isabella, more numerous posteriorly. The tail and the upper surfaces of the legs are similarly spotted. The young are generally more brightly colored than the females.

Remarks:— The description was made of a full grown adult male that measured one hundred and forty-five millimeters from snout to vent.

Habitat:— Common along the coast line of Porto Rico in the neighborhood of salt and fresh water preferably where the ground is sandy or gravelly; also found in the interior along the river courses but not reaching the high altitudes. Common in Saint Thomas, especially in the hills back of Charlotte Amalie, also in Vieques, St. John and Water Island, but probably extirpated in St. Croix where it was found before the introduction of the mongoose.

List of specimens examined.

M. C. Z. No.	No. of specimens	Ages	Sexes	Locality	Date	Collector	Remarks
2748	1	ad.	♂	St. Thomas, D. W. I.	1872	L. Agassiz	Descrip.
5432	1	ad.	♀	St. Thomas, D. W. I.	1879	S. Garman	
5433	4	all	both	St. Thomas, D. W. I.	1879	S. Garman	
6082–83	6	all	both	San Juan, Porto Rico	1879	S. Garman	

Ameiva alboguttata Boulenger.

Description:— Adult male; M. C. Z. 7898. Mona Island, W. I., 1908; B. S. Bowdish.

Similar to *A. exsul* in scutation except for the following: — five occipitals in a transverse row, the two adjacent to the median largest; last two supraoculars separated from the outer occipitals by four or five rows of small scales; four large infralabials and a fifth small one at the anterior extremity; preanal plates consisting of three large ones forming a triangle and two slightly smaller marginal ones on either side; on the upper arm a series of brachials more spherical than those of *A. exsul;* thirteen and fourteen femoral pores; about thirty-five scales in the fifteenth ring from the base.

Coloration: — Similar to *A. exsul* in ground color but tonality bluer and lighter; no black pencilings on the back; flanks blue-gray much lighter than those of *A. exsul*, and surmounted by a dark brown band which is somewhat broken into confluent spots; pale dapplings more numerous than in *A. exsul*, and covering the back, tail, and legs.

Remarks:— This form is so similar to *Ameiva exsul* that the distinguishing characters only are indicated in the description which was made of an adult male that measured ninety-six millimeters from snout to vent. As Stejneger (Rept. U. S. nat. mus. for 1902, 1904, p. 618) has pointed out this form as more readily distinguished from *A. exsul* by its numerous pale mottlings, than by any scutation characters. Only the specimen described was examined.

Habitat:— Confined to the small island of Mona.

Ameiva wetmorei Stejneger.

Stej., Proc. Biol. soc. Wash., 1913, **26**, p. 69.

Description: — Type U. S. N. M. 49731. Guanica, Porto Rico; May 20, 1912; A. Wetmore.

"Nostril between the two nasals; anterior nasals broadly in contact behind rostral; frontonasal broader than long, in contact with the loreal; prefrontals broadly in contact; frontal pentagonal, in contact with the first and second supraoculars, not touching third; a single hexagonal frontoparietal broadly in contact with the third, very narrowly with the second supraocular; three occipitals; five supraciliaries; three supraoculars, the first in contact with the first supraciliary, the others separated from the supraciliaries by a single row of fine granules; last supraocular in contact with outer occipitals; seven supralabials; six large infralabials; between infralabials and chin-shields posteriorly a single line of flat scales, the anterior ones not reaching the first pair of chin-shields; chin and throat covered with small scales or granules diminishing in size posteriorly; mesopthychium with a median patch of enlarged scales, the larger ones about four times the size of the chin granules; under side of the body with eight longitudinal and thirty-five transverse rows of rectangular plates; one large preanal plate, preceded by one much smaller, and this one by two still smaller ones placed transversely; on the lower arms two rows of large antebrachials, separated from the much smaller single row of brachials by small scales; on the lower edge of the upper arm a single series of enlarged postbrachials; under side of the thighs

covered with two series of large scales or plates and three smaller ones; thirteen or fourteen femoral pores; under side of the tibia covered entirely across by three plates, of which the upper is larger than the other two together; upper side of the wrist with three series of enlarged plates; outer toe extending far beyond the inner (first) toe almost to the claw of the second; tail covered with smooth scales, the scales being oblique with parallel sides, except for the median row which is wedge shaped; about twenty-two scales in the fifteenth ring from the base.

Coloration: — Above dark brownish olive with seven distinct greenish white longitudinal lines, the median one somewhat wider than the others and starting from the tip of the tip of the snout, while the others originate in front of the eye, and continue some distance on the tail except for the outer row which terminate in the groin; upper side of limbs also dark olive-brown with very distinct round greenish white spots; under side greenish white darkening on tail. Mr. Wetmore describes the tail of the living animal as varying from brilliant emerald-green to grayish blue according to light, and the under side as dull clay-red."

Remarks:— The description was taken from the type and only known specimen; it measured forty-seven millimeters from snout to vent. It is probable that the specimen was about half grown.

Habitat:— An extremely rare and local form known only from Guanica, Porto Rico.

Ameiva polops Cope.

Description:— Type U. S. N. M. 30,695. St. Croix Island, D. W. I.; A. H. Riise. Type examined; photographs M. C. Z.

Rostral forming a right angle behind; nostril between the two nasals; anterior pair of nasals just in contact behind rostral; frontonasal slightly wider than long (in photograph), in contact with loreal; prefrontals broadly in contact; frontal in contact with the second, third, and fourth supraoculars; a pair of frontoparietals in contact with the fourth supraocular for almost its entire length (the two scales are separated posteriorly by a very few small granules); five occipitals, the two bordering the median the largest; eight supraciliaries; four supraoculars; last supraocular separated from the outer occipitals by a few small granules; seven supralabials five infralabials; between infralabials and chin-shields a wedge of a single row of granules extending anteriorly almost to the first chin-shield; chin and throat with small granular scales, median gulars very slightly enlarged; on the

area between the two throat folds several rows of scales considerably enlarged; under side of body with ten longitudinal and thirty-two transverse rows of plates; preanal plates irregular, in pairs, the posterior pair largest and with a small median scale wedged between; a row of large brachials hardly continuous with a row of large antebrachials; a few large postbrachials; four series of femoral plates; two series of tibials inner small; (details of plates on arms and legs *fide* Boulenger, as the photographs do not show these characters distinctly); eighteen femoral pores; upper scales of tail oblique, scales of sides smooth, others indistinctly keeled.

Coloration: — Dorsal region olive-gray; on each side three longitudinal white lines, the upper faint; the interspace between the two upper white lines brown-black; between the two lower lines dusky; limbs gray flecked and lined with darker; lower surfaces greenish white; according to Boulenger, a white black-edged line along the hinder side of the femur and tibia and the anterior side of the latter.

Remarks:— The type is in good preservation; it measures $2\frac{3}{16}$" from snout to vent and the tail is $5\frac{1}{16}$" long.

The species is confined to the Isle of St. Croix (Santa Cruz), where it is either extremely rare or perhaps quite extinct. Recent collectors have been unable to secure specimens.

Ameiva corvina Cope.

Description:— Adult male; Type M. C. Z. 3616. Labeled Jeremie, Haiti, but undoubtedly one of the types from Sombrero.

Rostral forming an acute angle behind; nostril on posterior border of anterior nasal; anterior pair of nasals just in contact behind rostral; frontonasal longer than wide in contact with the loreal; prefrontals broadly in contact; frontal in contact posteriorly with the first supraocular, for nearly its entire length with the second; a pair of frontoparietals separated from the third supraocular by a single row of granules; eight occipitals in a transverse row of three pairs plus a single terminal scale on each side; seven supraciliaries; four supraoculars, the first separated from the loreal; three posterior supraoculars separated from the supraciliaries by a single, partly double row of granules; last supraocular separated from the outer occipitals by three rows of small scales; seven large supralabials; five or six infralabials; between infralabials and chin-shields a wedge of a single row of granules extending anteriorly to the first chin-shield; chin and throat covered with minute granules, an indistinct band of very slightly larger ones extending across the middle, the median ones forming an

ill-defined central group of scarcely larger ones; on the area between the two throat folds several rows of large hexagonal scales; under side of body with twelve longitudinal and thirty-six transverse rows of plates; preanal plates irregular and of varying size, the two median ones in a line with the axis of the body, and the two adjacent ones largest; on the lower arm one row of very wide, and two of very narrow antebrachials breaking up into small scales proximately; on the upper arm two or three rows of brachials, very slightly larger and grading into the granules of the arm; on the posterior side near the elbow a small group of slightly enlarged postbrachials; under side of the thighs covered distally with four rows of plates, outer row much the largest, breaking up proximally into ten or twelve smaller rows; thirty-four and thirty-six femoral pores; on the under side of the tibia four rows of plates those of the outer being about double the others; upper side of the wrist covered with granules; outer toe extending a little further than the inner; tail covered with straight, keeled scales; about thirty-three scales in the fifteenth ring from the base.

Coloration: — Upper and lateral surfaces dark brown tinged with olive or with blue, no pattern but nearly uniform dirt-color; head and tail more olive; ventral surface dark green, tinged with olive or with blue.

Variation: — There is apparently no variation in the female. We have been able to examine no young individuals, but it is probable that they also do not vary.

Remarks:— The description was made of an adult male that measured one hundred and eleven millimeters from snout to vent.

There is every reason to suppose that this specimen was one of the types. Cope when he described *Ameiva corvina* in 1861 stated that the types were in the Academy of natural sciences of Philadelphia (collected by Mr. Hanson) and in the Smithsonian institution (collected by Mr. Riise). Dr. Stejneger writes me that there are *no* specimens of this species in the U. S. N. M. and that there is no evidence that there ever were any. The types in the Philadelphia Academy collection are nos. 9115 to 9121. The additional specimens which Cope examined and which he credited to the Smithsonian collection are beyond doubt now in this Museum. One, M. C. Z. 5532, was received when the research collection of reptiles was sent to this Museum by the Peabody academy of science of Salem. It is marked as "a type of *A. corvina* Cope from Sombrero Island." It may have been given to the Museum in Salem by Cope, or received in exchange for the courtesy of permission to study and describe species in the Salem collection. The types of *Chamaeleo basiliscus* Cope and *Sepsina grammica* Cope were among those which Cope described from the

Salem collection and these are now in this Museum. The other specimens are four examples (M. C. Z. 3616) which are marked Jeremie, Haiti, collection of Dr. D. F. Weinland. Cope had the Weinland collection borrowed from the M. C. Z. for study at the time he described *Ameiva corvina* and when that Haitian material was returned these specimens were doubtless included. They are, we think, certainly the Riise specimens which were either destined for the Smithsonian or which had been borrowed from the collection by Cope before they had been entered in the Washington catalogue. These examples are those which Garman mentioned as types (Bull. Essex. inst., 1887, **19**, p. 10) but apparently without suspecting the erroneous locality, Jeremie, Haiti.

There is also the possibility that Cope really received these specimens from Cambridge, that the mixing with Haitian material took place there, and that he wrote the Smithsonian Institution by mistake for the Museum of Comparative Zoölogy. Such a lapsus would have been easy to make when he was constantly receiving specimens from both institutions. In any case two of these examples have been transferred to the U. S. National Museum. One of the other series of cotypes, from the Philadelphia Academy, has been received recently in exchange.

Habitat:— Apparently confined to the islands of Sombrero and Anguilla of the Lesser Antilles. It is unusual that a small island like Anguilla should have two species of Ameivas upon it, for *A. garmani* is peculiar to that island. It is quite probable that this locality record is incorrect.

List of specimens examined.

M.C.Z. No.	No. of specimens	Ages	Sexes	Locality	Collector	Remarks
3616	2	ad.	both	(?) Jeremie, Haiti	D. F. Weinland	Descrip. See Remarks
5532	1	ad.	♀	Sombrero Id., W. I.		Type
10535	1	ad.	♀	Sombrero Id., W. I.	Hanson	Cotype from Acad. nat. sci. Phila.

Ameiva pleii Dumeril et Bibron.

Ameiva scutata Gray, Cat. lizards Brit. mus., 1854, p. 19.
Ameiva analifera Cope, Proc. Amer. philos. soc., 1869, **11**, p. 158.

Description:— Adult male; M. C. Z. 6085. St. Bartholomew, F. W. I.; 1880; F. Lagois.

Rostral forming an acute angle behind; nostril on the posterior border of the anterior nasal; anterior pair of nasals narrowly in contact behind rostral; frontonasal longer than wide, in contact with the loreal; prefrontals broadly in contact; frontal in contact posteriorly with the first supraocular, for nearly its entire length with the second; a pair of frontoparietals separated for their entire length from the third supraocular by a double row of granules; eight occipitals in a transverse row consisting of a median pair and a group of three on either side; four supraoculars the first separated from the loreal; three posterior supraoculars separated from the supraciliaries by a single, partly double row of granules; last supraocular separated from the outer occipitals by three or four rows of small scales; seven large supralabials; five infralabials; between infralabials and chin-shields a wedge composed of a single row of granules and small scales extending anteriorly to the first chin-shield; chin and throat covered with minute granules, a distinct band of larger ones extending across the middle of which the median ones form an ill-defined central group of slightly larger ones; on the portion between the two throat folds several rows of large hexagonal scales; under side of the body with twelve longitudinal and thirty-four transverse rows of plates; preanal plates in a marginal row decreasing in size from the median pair, and in a median line one plate larger than the marginal ones, and another smaller one in advance of this; on the lower arm one row of very wide, and another narrow row of antebrachials breaking up into small scales proximally; on the upper arm three rows of brachials the median largest; on the posterior side near the elbow joint a group of slightly enlarged postbrachials; under side of thighs covered distally with four rows of plates, outer row considerably the largest; breaking up proximally into ten or twelve narrower rows; twenty-four and twenty-five femoral pores; on the under side of the tibia three rows of plates, those of the outer row greatly enlarged; upper side of the wrist covered with granules; outer toe not extending quite so far as the inner; tail covered with straight, keeled scales; about thirty-three scales in the fifteenth ring from the base.

Coloration:— Dorsal surface olivaceous gray, slightly yellowish especially on the head and tail; whole upper surface posterior to the shoulders spotted with pale whitish or yellowish blotches, those of the flanks being largest; ventral surface straw-color washed with blue on the belly.

Variation:— A female (same data as above) differs from the male in having fewer spots dorsally. A young specimen (same data) is very different from either of the adults. There are seven narrow white lines running the length of the upper surface of the body; the two outermost on each side border a wide brown band. In place of the pale spots of the adult male on the upper surface there are four series of black spots between the dorsal stripes. The ventral surface is paler and more green than that of the adult.

Remarks:— The description was made of an adult male that measured one hundred and twenty-two millimeters from snout to vent.

The confusion of the localities of Plee's specimens has already been discussed by Stejneger (Herpetology of Porto Rico. Rept. U. S. N. M. for 1902, 1904, p. 622–623) and by Barbour (Recent notes regarding West Indian reptiles and amphibians. Proc. Biol. soc. Wash., March 12, 1915, **23**, p. 73). *A. pleii*, like so many other of Plee's species, was described as coming from Martinique. Since, however, *A. analifera* and *A. pleii* are the same it is reasonable to assume that *A. pleii* originally came from St. Bartholomew where Plee probably touched on his way to Martinique. This leaves the Martinique Ameiva unknown, as indeed it will probably remain, because the introduced mongoose has for a long time been common there and every year does increasing harm to the fauna.

Habitat:— Confined to the closely associated islands of St. Martin and St. Bartholomew.

List of specimens examined.

M. C. Z. No.	No. of specimens	Ages	Sexes	Locality	Date	Collector	Remarks
6085	5	all	both	St. Bartholomew	1880	F. Lagois	Descrip.
4357	1	im.	♀	? ? Martinique [1]			
Phil. Acad.							
9143	1	ad.		? ? St. Eustatius			
9081	1	ad.		St. Bartholomew			
U.S.N.M.							
11176	1	ad.		St. Bartholomew			
11177	1	ad.		St. Martin			

Ameiva garmani Barbour.

Description:— Adult male; Type M. C. Z. 6141; Anguilla Island; 1880; F. Lagois.

Similar to *A. pleii* in scutation from which it may be distinguished by the following characters:— median band of gular scales made up of larger and more irregularly arranged granules than those of *A. pleii;*

[1] An old specimen, and not improbably one of the types of the species, doubtless received from the Paris museum. whence came all the early material in the M. C. Z. labeled "Martinique."

brachials slightly larger, postbrachials distinctly larger than those of this species; the largest of the outer tibials is larger than that of *A. pleii*, and also much wider; in *A. pleii* the width of this scale is about twice that of the adjacent scale proximally, while in *A. garmani* the two plates are about equal; upper side of the wrist covered with scales rather irregularly arranged; about thirty scales in the fifteenth ring from the base.

Coloration:— Lighter in color than *A. pleii*, with numerous pale, blue-gray or straw-color spots posteriorly, giving the legs the appearance of being gray reticulated with brown instead of brown with gray spots as in *A. pleii;* the heavy blotching extending down the tail, the spots being often bordered anteriorly with a zigzag rim of dark brown.

Remarks:— The relationship of this form to *A. pleii* is so close that a detailed description is not necessary. The description was made of an adult male that measured one hundred and twenty-six millimeters from snout to vent. Only one example seen.

Ameiva erythrocephala (Daudin).

Ameiva punctata Gray, Ann. nat. hist., 1838, p. 277; Boulenger, Cat. lizards Brit. mus., 1885, **2**, p. 359. Zool. record. Reptiles, 1887, p. 11.

Description:— Adult male; M. C. Z. 10378. St. Christopher, W. I.; 1914; G. K. Noble.

Rostral forming an acute angle behind; nostril between the two nasals; anterior pair of nasals just in contact behind rostral; frontonasal longer than wide in contact with the loreal; prefrontals broadly in contact; frontal in contact with the first supraocular posteriorly, with the second supraocular anteriorly, the posterior half separated by a single row of granules; a pair of frontoparietals separated from the third supraocular by one to four rows of granules, five occipitals, the three median in a transverse row and slightly anterior to the outer two; nine supraciliaries, the posterior four small; four supraoculars, the posterior smallest and followed by a large granule, the first separated from the loreal; three posterior supraoculars separated from the supraciliaries by a double row of granules ending anteriorly in a large granule; last supraocular separated from the outer occipitals by four or five rows of granules; six and seven supralabials; six infralabials; between infralabials and chin-shields a wedge of one or two rows of granules extending anteriorly to the first chin-shield; chin and throat covered with minute granules, a band of slightly larger ones extending across the middle, the median ones and two groups slightly anterior

and on either side of them largest; on the area between the two throat folds a small group of enlarged scales formed of five transverse rows of about six or seven scales each; under side of the body with fourteen longitudinal and thirty-six transverse rows of plates; preanal plates irregularly arranged, the three largest forming a triangular group crowded slightly out of the median line by two or three smaller ones; on the lower arm a single row of four or five wide plates breaking up into granules before reaching the elbow; on the upper arm three or four rows of brachials, median largest, others grading into the granules of the arm; on the posterior side near the elbow a small group of slightly enlarged postbrachials; under side of the thighs covered distally with five, proximally with ten or twelve rows of scales, outer row widest; thirty-eight and thirty-nine femoral pores; on the under side of the tibia two rows of large and three of small scales, outermost considerably larger than the other two; upper side of the wrist with a regular longitudinal series of plates covering the outer part of wrist and hand only; outer toe extending a little further than the inner; tail covered with straight keeled scales; about thirty-seven scales in the fifteenth ring from the base.

Coloration:— Dorsal surface dark olive-green slightly tinged in life with russet, head lighter and more reddish olive, the sides of which are almost rosy in life; numerous black pencilings on the back and sides arranged in a very wide median band, and two narrower more distinct lateral bands running the length of the body but fading off on the tail; chin and throat pale flesh-color in sharp contrast to the rest of the under parts which are blue-gray; the pale throat almost brilliant in life serving to distinguish this form from all others except perhaps the closely related *A. erythrops*.

Variation:— The females are similar to the males except that the dark pencilings on the back are more numerous and distinct, forming almost a network of black lines having a generally transverse direction. There is a suggestion of a pale line anteriorly on each side of the body. This becomes more distinct in the young and borders a dark lateral band on the upper side while a similar white line forms a lower margin to the stripe. Generally speaking the young are like the adult females. One specimen, however, (M. C. Z. 10376) has a pale throat which is not in sharp contrast to the pale blue-gray under parts, and there are no ultramarine blue spots on the outer ventral plates as found in the adults.

Remarks:— The description was made of an adult male that measured one hundred and twelve millimeters from snout to vent. Old males often grow much larger than this specimen.

Habitat:— Apparently confined to the island of St. Christopher where it is common about the town of Basse Terre especially on the low-lying uncultivated fields to the west of the settlement.

List of specimens examined.

M. C. Z. No.	No. of specimens	Ages	Sexes	Locality	Date	Collector	Remarks
10375–8	4	all	both	Basse Terre, Saint Christopher	1914	G. K. Noble	Descrip.
6091	7	all	both		1881	F. Lagois	
6092	15	all	both		1879	S. Garman	

Ameiva erythrops Cope.

Careful search at the Philadelphia Academy has failed to reveal the types of this species and they are beyond doubt lost. A new description of this form so closely related to, yet seemingly distinct from *A. erythrocephala* would have been very desirable. The following is derived from the original description (Cope, Proc. Acad. nat. sci. Phila., 1871, p. 221).

Description:— Four supraorbitals; nine supraciliaries; five infralabials separated by a few intermedials from posterior labials; seven rows of larger gular scales extending entirely across the throat; three larger series on gular fold which has several rows of granules near margin; abdominal plates 12–14 series; brachials small in four rows; postbrachials small; antebrachials large, two rows hexagonal, one transverse; preanal scales two large median with a single row of one or two in front; small scales occur in some specimens behind the posterior two; outer hind toe a little longer than inner.

Coloration:— Color brownish olive, with a broad greenish band extending on each side of the back beginning on the nape, above the ear. In young specimens these bands are bright. Another less distinct band extends along the side from above axilla to groin. Between these and the dorsals, and across the back are transverse black reticulations. Belly greenish, the color appearing as spots on the outer scales. Thorax and edge of sides of fold black; throat bright yellow; sides of head red; upper surface brown; limbs olive with black reticulations.

Remarks:— Cope's description was made in part from an adult that measured one hundred and twenty-six millimeters from snout to vent.

It has been pointed out by both Garman and Barbour that this form is closely related to *A. erythrocephala* but until fresh specimens are examined it will be impossible to state how close this relationship really is. There are apparently no specimens of this species in any museum. It was from St. Eustatius.

Ameiva pluvianotata Garman.

Description:— Adult male; Type M. C. Z. 6086; Plymouth, Montserrat, B. W. I.; 1879; S. Garman.

Rostral forming about a right angle behind; nostril in the posterior border of anterior nasal; anterior pair of nasals just in contact behind rostral; frontonasal longer than wide in contact with the loreal; frontal in contact with the first, second, and third supraoculars; a pair of frontoparietals separated from the third and fourth supraoculars by one to four rows of granules; occipitals irregular, median largest, a group of five or six scales on each side of it, the outermost somewhat larger than the others; eight supraciliaries, last four small; four supraoculars, the first separated from the loreal; three posterior supraoculars separated from the supraciliaries by a single row of granules; last supraocular separated from the outer occipitals by four rows of granules; six and seven supralabials; six infralabials; between infralabials and chin-shields a wedge of one or two rows of granules extending anteriorly to the first chin-shields; chin and throat covered with minute granules, an indistinct band of larger ones extending across the middle, the median ones largest, two other groups on either side not quite as large as these; on the area between the two throat folds a transverse series of enlarged scales, the median row much larger than the others; under side of the body with fourteen longitudinal and thirty-six transverse rows of plates; preanal plates, consisting of three median scales, the posterior largest and followed by two granules, also a transverse series decreasing in size from the median pair; on the lower arm three rows of scales, the outer very broad and low; on the upper arm three or four rows of small brachials, medials largest, others grading into the granules of the arm; on the posterior side near the elbow joint a small group of slightly enlarged postbrachials; under side of thigh covered distally with five, proximally with ten or twelve rows of scales, outer row slightly larger than the others; thirty-one and thirty-three femoral pores; on the under side of the tibia five rows of scales, outermost much larger than the others; upper side of the wrist with a regular series of transverse plates covering the outer margin only; outer toe extending about as far as the inner; tail covered with straight keeled scales; about thirty-nine scales in the fifteenth ring from the base.

Coloration:— Ground tone of dorsal surface dirt-brown, grayer posteriorly; upper surface of thighs, sides of tail very slightly spotted with blue-gray; ventral surface straw-color, smoky on the throat, chest and upper abdomen; the straw-color carried up as a few odd spots on the sides of the head and thighs.

Variation:— The females and young males are very different from the adult males in being generally grayer and profusely dappled with light blue-gray. One specimen, an adult female (same data as above) is generally olivaceous gray above. Two indistinct brown bands run the length of the flanks. The sides and upper surface of the body, appendages and most of the tail is profusely spotted with light gray, while the under surface is bluish except for the gular folds which are suffused with black. A young specimen (same data as above) is identical with the female. Oddly enough the lateral bands are even less distinct than in the adult.

Remarks:— The description was made of an adult male that measured one hundred and thirty-five millimeters from snout to vent.

This species is a noteworthy exception to the general rule that the young tend more to be distinctly striped than the adults.

We have examined only the ten types of this species the data for which is given before the description. In this series of specimens there are young and adults of both sexes.

Habitat:— Apparently confined to the island of Montserrat. The Ameiva from the neighboring island of Antigua is unknown, if one still occurs there.

AMEIVA ATRATA Garman.

Description:— Adult female; TYPE M. C. Z. 6084. Redonda Island, B. W. I.; 1880; W. J. Branch.

Rostral forming about a right angle behind; nostril on posterior border of anterior nasal; anterior pair of nasals just in contact behind the rostral; frontonasal a trifle longer than wide, just touching the loreal; prefrontals broadly in contact and partly surrounding a small scale posteriorly, frontal in contact with the first three supraoculars; a pair of frontoparietals in contact, anteriorly, with the third supraocular; seven occipitals, rather small, irregular and in a transverse row, the two adjacent to the median smallest, the two outermost largest; eight supraciliaries; four supraoculars, the first separated from the loreal; three posterior supraoculars separated from the supraciliaries by a single, part double row of granules; six large supralabials; five infralabials; between infralabials and chin-shields a wedge of one or two rows of scales extending anteriorly to the first chin-shield; chin and throat covered with minute granules, an indistinct band of scarcely larger ones extending across the middle, the median ones slightly largest; on the area between the two throat folds several rows of large hexagonal scales; under side of the body with twelve longitudi-

nal and thirty-five transverse rows of plates; preanal plates in a marginal row, the two median largest and in a pair of large median plates just anterior to these; on the lower arm one row of wide and two of very narrow antebrachials, grading into four or five rows of smaller scales near the elbow joint; on the upper arm two or three rows of brachials scarcely larger and grading into the granules of the arm; on the posterior side near the elbow a small group of slightly enlarged postbrachials; under side of the thighs covered distally with four rows of plates, outer row much the wider, breaking up proximally into ten or twelve smaller rows; femoral pores twenty-nine and thirty; on the under side of tibia four rows of plates those of the outer being very much enlarged; upper side of the wrist covered with granules; outer toe extending a little further than the inner, tail covered with straight, keeled scales; about thirty-nine scales in the fifteenth ring from the base.

Coloration:— Upper and lateral surfaces uniform dark brown tinged with olive-green anteriorly with bluish gray posteriorly; ventral surface dark blue-gray spotted laterally with turquoise-blue of low intensity.

Remarks:— The description was made of an adult female that measured one hundred and four millimeters from snout to vent. The type is the only recorded specimen of this species. It is interesting to note the almost melanotic coloration of the Ameivas from the small islands of Sombrero and Redonda, which parallels that of the wall lizards (Lacerta) of Filfola and other rocky islets of the Mediterranean.

Habitat:— Confined to the small island of Redonda.

Ameiva cineracea, sp. nov.

Description:— Adult male; Type M. C. Z. 10577. Grand Isle off Petit Bourg on the coast of Guadeloupe, F. W. I.; August 24, 1914; G. K. Noble.

Rostral forming slightly more than a right angle behind; nostril between the two nasals; anterior pair of nasals just in contact behind rostral; frontonasal longer than wide in contact with the loreal; frontal in contact with part of the first two supraoculars; a pair of frontoparietals in contact with the second supraocular posteriorly, the third anteriorly, separated from the posterior part of the third supraocular by one to four rows of granules; five occipitals, the median partly divided, arranged with outer two slightly posterior but in the

same transverse line as the other three; nine supraciliaries; four supraoculars, first separated from the loreal; three posterior supraoculars separated from the supraciliaries by two or three rows of granules becoming fused into a single row anteriorly; last supraocular separated from the outer occipitals by three or four rows of granules; six supralabials; six and seven infralabials; between the infralabials and chin-shields a wedge of one to three rows of granules and scales extending anteriorly to the first chin-shield; chin and throat covered with minute granules a scarcely differentiated band of larger ones extending across the throat of which the median group of scutes and two groups anterior to it and on either side of it are composed of the largest granules; on the area between the two throat folds a transverse series of scales, about a dozen of the median scales, in a group, somewhat enlarged; under side of the body with eighteen longitudinal and thirty-eight transverse rows of plates; preanal plates small, almost granular, in a transverse row of seven or eight scales and in a median row of two or three; on the lower arm three short rows of scales, the outer scales being much divided, all of the scales decrease rapidly in size from the mid-region to the elbow; on the upper arm a series of oblique rows each formed of four scales; on the posterior side near the elbow joint a small group of postbrachials scarcely differentiated in size from the granules of the arm; under side of thighs covered with seven or eight rows distally, with twenty-five or more proximately; thirty-one femoral pores; on the under side of the tibia five rows of scales, the two proximal ones of the outer row considerably larger than the others, the second the larger of the two; upper side of the wrist with a regular series of plates covering the outer edge only; outer toe extending about as far as the inner; tail covered with straight, keeled scales; about forty scales in the fifteenth ring from the base.

Coloration: — Dorsal surface ashy gray, more bluish on the flanks, slightly more olivaceous on the head and tail; a trace of three indistinct stripes of a slightly darker tone of gray running the length of the body along the back; a suggestion of another dark stripe on each side; in places all five of these bands are indistinguishable from the ground tone; ventral surface straw-color or milky encroached upon laterally by the blue of flanks and of the side of head.

Variation: — Neither of the two females before us show any variation of color from that of the adult male described. In this respect this species is rather peculiar.

Remarks:— The description was made of an adult that measured one hundred and fifty millimeters from snout to vent.

Three adult specimens, 1♂ and 2 ♀ ♀ of this species were examined. Their numbers are M. C. Z. 10575–10577.

Habitat:— Apparently confined to a small low island, known locally

as Grand Isle, lying about half a mile off shore from Petit Bourg, Guadeloupe. This island, only some fifty yards in extent, consists of a low tangled mass of vegetation upon a "coral" foundation. In character it is similar to the Isle of Grande Terre (a part of Guadeloupe politically) and from which it has doubtless been separated in comparatively recent geologic times. Since any considerable uplift would raise the bench bank on which the islands of Grande Terre and Guadeloupe both stand and bring both into connection with Grand Isle. The entire area between Grand Isle and both the main islands is simply an enormous *cul-de-sac* which is extremely shallow. There certainly cannot be more than a dozen or two of these Ameiva in this place. Observations made by the Junior author in Guadeloupe seem to show that this is the last place where the Guadeloupe Ameiva occurs.

Ameiva fuscata Garman.

Description:— Adult male; Type M. C. Z. 6087. Dominica, B. W. I.; 1879; S. Garman.

Rostral forming slightly more than a right angle behind; nostril between the two nasals broadly in contact behind rostral; frontonasal longer than wide in contact with the loreal; prefrontals in broad contact; frontal in contact with the first two supraoculars, separated from the third supraocular by one to three rows of granules; occipitals irregular, a median group of three small ones, on each side of this a very large scale, further to the side and posterior to these two scales, a group of two or three small ones; nine supraciliaries; three supraoculars, the first separated from the loreal; two posterior supraoculars separated from the supraciliaries by one or two rows of granules; last supraocular separated from the outer occipitals by four or five rows of granules; six supralabials; six and seven infralabials; between infralabials and chin-shields a wedge of one or two rows of granules and scales extending anteriorly to only the second chin-shield; chin and throat covered with minute granules of somewhat varying size, a band of distinctly larger ones extending across the middle, the median scutes enlarged to form an ill-defined group; on the area between the two throat folds three or four transverse rows of scales, the middle row widest, the scales of all the rows grading off sharply in size from the mid-region; under side of body with fourteen longitudinal and thirty-four transverse rows of scales; preanal plates in a longitudinal, median row of four large plates with several scales on each side, the posterior ones largest; on the lower arm three rows of

antebrachials, outer row considerably larger than the others, all breaking up into small scales before the elbow joint; on the upper arm three rows of brachials, median largest; on the posterior side near the elbow joint a small group of small postbrachials; under side of the thighs covered with four rows distally, with fourteen proximally, outer row just above the knee formed of the widest scales; twenty-eight femoral pores; on the under side of the tibia five rows of scales, the two proximal ones of the outer row considerably larger than the others and both subequal; upper side of the wrist with a regular series of plates covering the outer edge only; outer toe extending a little further than the inner; tail covered with straight keeled scales; about forty-six scales in the fifteenth ring from the base.

Coloration: — Since the type specimen described is somewhat faded, another specimen (M. C. Z. 10571; adult male, collected 1914 on Dominica by A. G. Ruthven) is used for coloration. Dorsal surface very dark olive-blue; on each side, a row of irregular pale blue spots; upper surfaces of thighs spotted with the same color; ground tone of ventral surface straw-color; outer ventrals, lower part of flanks with two or three rows of pale bluish spots; whole throat, chest, and anterior part of the abdomen washed with very dark blue.

Variation: — The females are similar to the males but the colors are generally brighter. A young specimen (M. C. Z. 6087, same data as above) differs somewhat from the adults. Instead of the pale lateral spots, there is present a pale stripe on each side of the body. The flanks are blacker than the back and there are no series of light spots on its lower edge. The ventral surface is washed with blue-gray.

Remarks:— The description of the scutation was taken from an adult male that measured one hundred and fifty-four millimeters from snout to vent; the color notes from a slightly larger individual.

Habitat:— Confined to the island of Dominica where it is found commonly just outside of the town of Rouseau, "especially in the hills among the plantings of cocoa trees." (Ruthven, *in litt.*).

List of specimens examined.

M. C. Z. No.	No. of specimens	Ages	Sexes	Locality	Date	Collector	Remarks
6087	3	all	♂	Dominica, B. W. I.	1879	S. Garman	Types Descrip.
10571	1	ad.	♂	Dominica, B. W. I.	1914	A. G. Ruthven	Descrip.
U. of Mich. Mus.		ad.	♀	Dominica, B. W. I.	1914	A. G. Ruthven	

Ameiva aquilina Garman.

Description:— Adult male; Type M. C. Z. 6088. Grenada, B. W. I.; 1879; S. Garman.

Rostral forming a trifle less than a right angle behind; nostril between the two nasals; anterior pair of nasals broadly in contact behind rostral; frontonasal longer than wide in broad contact with the loreal; prefrontals broadly in contact; frontal in contact with the first two supraoculars, with the second for its entire length; a pair of frontoparietals separated from the third supraocular by one or two rows of granules; five subequal occipitals, the three median ones in a transverse line, the other two beyond these and slightly posterior; seven supraciliaries; four supraoculars, the first separated from the loreal; the three posterior supraoculars separated from the supraciliaries by a single row of granules ending anteriorly in a large granule, last supraocular separated from the outer occipitals by two or three rows of granules; five large supralabials; six infralabials; between infralabial and chin-shields a wedge of one or two rows of granules and scales extending anteriorly half the length of the second chin-shield; chin and throat covered with minute granules, a band of distinctly larger ones extending across the middle, the median scales largest and forming an ill-defined group; on the area between the two throat folds three or four transverse rows of scales all about the same size; under side of the body with fourteen longitudinal and thirty-three transverse rows of plates, the outer very small; preanal plates irregular, placed more or less in a series of transverse rows, a median group of four scales largest; on the lower arm three rows of antebrachials, outer row considerably larger than the two inner which are somewhat irregular, the series extending to the brachials; on the upper arm three rows of brachials the median row slightly the largest; on the posterior side near the elbow joint a small group of postbrachials; under side of thighs covered with four rows distally, with fifteen proximally, outer row just above the knee formed of wider scales; eighteen and nineteen femoral pores; on the under side of the tibia five regular rows of plates, the second and third scale proximally of the outer row largest; upper side of the wrist with a regular series of transverse plates corresponding to the inner and outer metatarsals; outer toe extending a little further than the inner; tail covered with straight, keeled scales; about forty-one scales in the fifteenth ring from the base.

Coloration:— Dorsal surface olive-brown more bluish on the sides of the head and appendages; on either side of the body a broad rufous brown band, the edges of which are somewhat undulating, extending part way down the tail; sides of the body with four or five longitudinal rows of pale blue or milky spots; ventral surface straw-

color, washed on the sides with bluish; outer ventrals, edges of the lateral spots often reticulated or marked with black.

Variation:— A female (same data as above) differs from the male in being more brightly colored. The dark lateral bands are almost black. On the back between these two bands there is a regular longitudinal series of two rows of dark spots. The dark bands on the sides are bordered by a series of pale spots. The flanks below the bands have each one or two more rows of similar spots. The outer ventrals are heavily marked with brown instead of black. A young male (same data as above) is similar to the adult female except that the region below the dark bands is considerably darker.

Remarks:— The description was taken from an adult male that measured one hundred and twenty-two millimeters from snout to vent.

Habitat:— Apparently confined to St. Vincent and Grenada, though it is probable that it also occurs in some of the Grenadines. In spite of the mongoose this species which was once almost exterminated seems now to be on the increase,— a peculiar fact due probably to the lizards' change of habits. Dr. Allen noticed this in Grenada and the same thing has been reported in Jamaica as happening with *Ameiva dorsalis*.

List of specimens examined.

M. C. Z. No.	No. of specimens	Ages	Sexes	Locality	Date	Collector	Remarks
6088	8	all	both	St. George, Grenada	1879	S. Garman	Descrip. Types
6089	25	all	both	Kingston, St. Vincent	1879	S. Garman	Types
8092–8	7	all	both	Sauteurs, Grenada	1910	G. M. Allen	
6090	2	ad.	both	St. George, Grenada	1886	W. B. Richardson	

Ameiva tobagana (Cope).

Dr. Stejneger has been kind enough to supplement photographs of the type of this species, with the following excellent description.

"Rostral forming an acute angle behind; nostril between two nasals; anterior pair of nasals broadly in contact behind rostral; frontonasal longer than wide, in contact with nasals, loreal, and prefrontals; prefrontals broadly in contact; frontal pentagonal, in contact with first and second supraoculars, well separated from third; a pair of frontoparietals in contact with second and third supraoculars anteriorly; five occipitals in a transverse row, much longer than wide,

median not larger than adjoining pair; seven superciliaries; four supraoculars, the first in contact with two anterior superciliaries, and separated from the loreal by the first of the latter; three posterior supraoculars separated from the superciliaries by a single row of granules; the last two supraoculars separated from outer occipitals by two rows of small scales or granules; loreal undivided; seven large supralabials, third, fourth, and fifth longest, first in contact with posterior nasal, scarcely with anterior, second in contact with posterior nasal, third with posterior nasal and loreal; center of temples granular, the size of the granules increasing gradually downward and forward; a series of four distinctly enlarged scales from the postocular backwards; mental followed by an unpaired postmental; six large infralabials, third and fourth largest; first pair of chin-shields broadly in contact except at the extreme posterior end; between infralabials and chin-shields an interrupted single series of granules, extending from the second chin-shield backwards, third infralabial in contact with first and second chin-shields, and fourth infralabial in contact with fourth chin-shield; chin and throat covered with granules of varying sizes, the larger ones in the middle in four ill-defined groups, one anteriorly in the angle between the jaws, the second forming a band across the throat at the level of the ears, rather sharply defined posteriorly against the granules behind, the third a median group in front of the first transverse fold, and the fourth a transverse group of about three rows on the mesopthychium, the enlarged scales on the second and third being considerably larger than the others; back, sides, and upper sides of limbs covered with very fine uniform granules, slightly smaller on the sides, and larger on the limbs; under side of body anteriorly with ten, posteriorly with twelve longitudinal and thirty-two transverse rows of square plates; on the preanal region an ill-defined group of about ten somewhat enlarged scales of varying size and shape; on the lower arm a series of wide plates (antebrachials) decreasing rapidly in size, and replaced by large granules or small hexagonal scales before reaching elbow joint; on the upper arm two distinct rows of similar but narrower scales, surrounded by somewhat slightly smaller scales, gradually decreasing in size, widely separated from the antebrachial series; on the under side near the elbow a group of slightly enlarged hexagonal postbrachials; seventeen femoral pores on the right side, eighteen on the left; under side of thighs covered with about five series of somewhat enlarged hexagonal plates, only the outer series being regular and somewhat larger than the others; on the under side of tibia four rows of enlarged hexagonal plates, those of the outer series very much larger than the others; upper side of wrist with four regular series of transverse plates corresponding to the metatarsals; first (inner) toe extending very slightly beyond the fifth (outer), fourth toe extending beyond the third for a distance much

longer than the third toe with claws;[1] tail covered with keeled scales in rings, scales being straight and the keels nearly parallel with the sides of the scales; about forty-three scales in the fifteenth ring from the base."

Dimensions.

	mm.
Total length	288
Snout to vent	95
Tail	193
Snout to ear	23
Width of head	15
Fore leg from axilla	35
Hind leg from groin	76
Outer toe without claw	9
Inner toe without claw	5

Description:— Type U. S. N. M. 10113. Tobago, West Indies; F. A. Ober.

Ameiva atrigularis Garman.

Description:— Adult male; Type M. C. Z. 6080. Trinidad, B. W. I.; 1879; C. S. Cazabon.

Rostral forming about a right angle behind; nostril between the two nasals; anterior pair of nasals in broad contact behind rostral; frontonasal longer than wide in broad contact with the loreal; prefrontals in broad contact; frontal in contact with the first two supraoculars, with the second for its entire length; a pair of frontoparietals separated posteriorly by one or two rows of granules from the third supraocular; five subequal occipitals, the two adjacent to the median slightly larger than the others; four supraoculars, the first separated from the loreal; three posterior supraoculars separated from the supraciliaries by a single row of granules ending anteriorly in a large granule; last supraocular separated from the outer occipitals by two or three rows of granules; five and six large supralabials; six infralabials; between infralabials and chin-shields a wedge of one or two rows of granules extending anteriorly half the length of the second chin-shield; chin and throat covered with small granules, a broad group in the median posterior region formed of large scales but varying gradually into the others; on the area between the two throat folds three or four rows

[1] In *exul* fourth toe extends beyond third not more than length of third toe without claw.

of scales, median largest; under side of the body with twelve longitudinal and thirty-three transverse rows of plates, the scales of the outer row much smaller than the others; preanal plate in a triangle of three large scales, with a smaller scale at each of the basal angles, and another at the base of the median suture; on the lower arm three rows of antebrachials, the outer row widest, the two inner somewhat irregularly arranged, the series extending to the brachials; on the upper arm three rows of brachials all about the same size; on the posterior side near the elbow joint a group of small postbrachials; under side of the thighs covered distally with four, proximally with twelve rows of scales; sixteen and seventeen femoral pores; on the under side of the tibia three, or partly four rows of plates, outer widest; upper side of the wrist with regular series of plates, longitudinally arranged; outer toe extending not so far as the inner; tail covered with straight, keeled scales; about fifty scales in the fifteenth ring from the base.

Coloration: — Dorsal surface pale olive-brown, slightly more reddish on head; upper and lateral surface of the body, legs, and tail finely speckled with black, the spots confluent posteriorly into reticulations; flanks with six or seven longitudinal rows of white spots encircled often with black, the lower three rows on the outer ventrals; sides of the tail spotted irregularly with black and white; chin and gular region, part of the sides of head and arms black; ventral surface straw-color encroached upon by the spotting of the sides and the dark wash of the throat.

Variation: — An adult female (same data as above) differs from the male in that the dark confluent spots are much less numerous. The general tonality is pale, and the lateral spots are not sharply defined. A young male (same data as above) differs considerably from the adult. Although having the same general ground tone there are no black specklings. On each side there is a broad black stripe, stifled with a few white spots. The outer ventrals have two rows of black spots on either side. There is no black on the chin, throat, or sides of the head.

Remarks:— The description was made of an adult male that measured one hundred and fifty-five millimeters from snout to vent.

We have examined only the types of this species, M. C. Z. 6079 and 6080. There are fifteen specimens in this series, young and old of both sexes.

Habitat:— Apparently confined to the island of Trinidad.

Ameiva ameiva ameiva (Linné).

Seps surinamensis Laurenti, Syn. Rept., 1768, p. 59.
Ameiva surinamensis Boulenger, Cat. lizards, Brit. mus., 1885, **2**, p. 352.

Description:— Adult male; M. C. Z. 6077. Paramaribo, Dutch Guiana, (Surinam); 1886; Wm. B. Richardson.

Rostral forming a trifle less than a right angle behind; nostril between the two nasals; anterior pair of nasals broadly in contact; frontonasal a trifle longer than wide, in contact with the loreal; prefrontals broadly in contact; frontal in contact with the first two supraoculars except for an abnormal granule lying on the suture; two pairs of frontoparietals, posterior smaller, both except for the anterior part of the first pair separated from the third and fourth supraocular by one to three rows of granules; five occipitals in a transverse row, the median one smaller and slightly anterior to the others; six supraciliaries; four supraoculars the first separated from the loreal; three posterior supraoculars separated from the supraciliaries by a single row of granules; last supraocular, part of the next to last separated from the outer occipitals by three or four rows of granules; seven large supralabials; five large infralabials; between infralabials and chin-shields a wedge of a single row of granules extending anteriorly to the middle of the second chin-shield; chin and throat covered with granules, an ill-defined band of larger ones extending across the throat of which a broad group in the median posterior region is composed of the largest granules; on the area between the two throat folds four or five irregular rows of scales, the median two rows widest; under side of the body with twelve longitudinal and thirty-three transverse rows of scales, the two outer scales on each side of the transverse rows much the smallest; preanal plates in a triangle of three large scales with another smaller scale at each of the basal angles; on the lower arm, two, or part three, rows of antebrachials, the outer widest; on the upper arm a single (partly double) row of very large brachials continuous with the antebrachials; on the posterior side near the elbow a group of small postbrachials; under side of thighs covered distally with four, proximally with twelve rows of scales; twenty-one femoral pores; on the under side of the tibia three, part four rows of plates, outer widest; upper side of the wrist covered with scales forming a regular series of longitudinal rows; inner and outer toe extending approximately the same; tail covered with straight, keeled scales; about forty-one scales in the fifteenth ring from the base.

Coloration: — Dorsal surface pale olive-brown tinged with green; head and neck, upper part of arms heavily spotted with black, the

spots confluent and forming irregular bars and triangles; sides of body with a series of whitish spots arranged in vertical rows, each spot surrounded with black; these black areas somewhat confluent into vertical rows; on each flank the trace of a white stripe running from the thighs only part way the length of the abdomen; two blackish stripes on each side of the tail; ground color of ventral surface straw-color tinged with bluish; gular and chin region sprinkled with black, outer ventrals heavily spotted with the same color.

Variation: — This species and its several races vary considerably in both scutation and coloration. As mentioned (p. 462) the rows are not sharply defined; the characters blend one into another. The sexual differences are not very constant. In general a female is browner and has not as many confluent black spots on its upper surface. None of the variations of scutation seem to be sexual. A young female (same data as above) falls within the scutation variations but its coloration is rather distinctive. On each side of the body there is a wide black stripe margined with white, running from the eye half way down the tail. No black spots are to be seen on the upper surface of the body or head, but a few dark mottlings are found below the black stripes. The under surface is pale blue varying to straw-color; there are no black spots on the gulars.

Remarks:— The description was made of an adult male measuring one hundred and eighteen millimeters from snout to vent. Old males often grow much larger than this specimen.

Habitat:— Widely distributed over the northeastern part of South America from the Demerara River in British Guiana as far south as Bahia, Brazil, inland along the Amazon to as far west as the Madeira River.

List of specimens examined.

M.C.Z. No.	No. of specimens	Ages	Sexes	Locality	Date	Collector	Remarks
6077	2	ad.& yg.	both	Paramaribo, Dutch Guiana	1886	W. B. Richardson	Topotype Descrip.
1169	2	ad.& h. g.	both	Para, Brazil	1862	J. C. Fletcher	
5533	1	ad.	♀	Para, Brazil			Bought 1886
5536	1	yg.	♂	Para, Brazil			Bought 1886
5531	2	ad.	♂	Para, Brazil			Bought 1886
1014	2	h. g. & yg.	♂	Para, Brazil	1859	C. Cooke	
2174	1	ad.	♂	Mana, F. Guiana			Bought
2 ?	1	ad.	♂	Para, Brazil		Wm. Knight	

M.C.Z. No.	No. of specimens	Ages	Sexes	Locality	Date	Collector
3361	1	h. g.	♀	Santarem, Brazil	1865, 6	L. Agassiz
2608	4	ad.	both	San Gonçalla, Brazil	1865, 6	L. Agassiz
2781	1	ad.	♂	Santarem, Brazil	1865, 6	L. Agassiz
3395	1	ad.	♂	Brazil	1865, 6	L. Agassiz
1158	1	ad.	♂	Villa Bella, Brazil	1865, 6	L. Agassiz
2624	1	ad.	♂	Silva Lake, Brazil	1865, 6	L. Agassiz
2632	1	ad.	♂	Maués, Rio Madeira, Brazil	1865, 6	L. Agassiz
2907	2	ad.	♂	Rio Puty, Brazil	1865, 6	L. Agassiz
2888	1	ad.	♂	Para, Brazil	1865, 6	L. Agassiz
3308	1	ad.	♀	?	1865, 6	L. Agassiz
2813	1	ad.	♂	Santarem, Brazil	1865, 6	L. Agassiz
3314	1	ad.	♀	Santarem, Brazil	1865, 6	L. Agassiz
3311	2	ad.	both	Tajapurú, Brazil	1865, 6	L. Agassiz
U. of M. 43961	1	ad.	♂	Tumatumari, British Guiana	1912	E. B. Williamson

Ameiva ameiva bilineata, subsp. nov.

Description:— Adult male; Type Mus. of Zoöl., Univ. Mich. 46142. Dunoon, Demerara River, British Guiana; August 24, 1914; A. G. Ruthven.

Similar to *Ameiva a. ameiva* in scutation but between *A. a. petersii* and *A. a. melanocephala* in coloration; ground color of dorsal surface dark olive-blue; a few indistinct black blotches on the head forming on the body two parallel rows from the shoulders to the thighs; on each side of the body a broad stripe of dark brown, the lower margin of which is indistinct because of the dark flanks; a series of white spots more or less regularly arranged in ventral rows covering the sides of the body and the outer ventrals; similar but bluish spots covering the sides of the thighs; under surface pale blue of a low intensity; throat sprinkled with a few black spots extending partly over the sides of the head.

Variation:— Females, for example U. of M. 46150 (same data as above), are readily distinguishable from the males by their browner tonality, by a distinct lateral band of dark brown and by the absence of white spots on the lower flanks. Instead of the spots there is a series of indistinct milky bars somewhat confluent especially just below the broad lateral band where they form a white margin for a part of its length. About the anal region and on the femoral pores there is a delicate salmon blush, a distinctive character in two of the three females examined.

Remarks:— The description was made of an adult male that measured one hundred and six millimeters from snout to vent.

We have examined five specimens, adults, of both sexes, from the University of Michigan No. 46137, 46140, 46141, 46141, 46142 and 46150. These were all taken August, 1904, at Dunoon, Demerara River, by Dr. A. G. Ruthven and his assistant Mr. Frederick Gaige. Thanks to Dr. Ruthven's generosity the Museum of Comparative Zoölogy has been able to retain one of the paratypes mentioned above.

Habitat:— Apparently confined to the region between the Demerara and Orinoco Rivers.

Ameiva ameiva melanocephala, subsp. nov.

Description: — Adult female; Type M. C. Z. 9993. Cumanacoa, Venezuela; 1896; W. H. Phelps.

Similar to *Ameiva a. ameiva* in scutation except for the median gulars which are larger in this race and form a distinct group; unlike any of the other races of *Ameiva ameiva,* the throat, under side of neck and upper part of chest, of this form, are smoky; dorsal surface dark brown; numerous confluent black spots on the upper surface and extending down over the outer ventrals; an indistinct stripe on each flank margined by two light ones; ventral surface straw-color posteriorly, smoky anteriorly; legs and tail spotted with smoky blue.

Variation:— Three males from La Guayra, Venezuela, although having the characteristic smoky throat differ in other ways from this female in coloration. For example one specimen, U. S. N. M., 27788, is olive-gray above. There are no dark confluent spots nor any lateral stripes, but on each flank a series of pale blue spots, surrounded by dark circles. These spots are arranged somewhat irregularly in vertical rows. On the ventral side the smoky wash of the throat extends down over the abdomen. A young specimen M. C. Z. 9994 (same data as female described) has the broad lateral stripe of dark brown bordered with white. There is a faint smoky wash over the throat, and the lateral white spots are very faint. Only a few dark spots appear on the back.

Remarks:— The description was made of an adult female measuring one hundred and thirty-five millimeters from snout to vent.

We have examined three specimens from Cumanacoa, M. C. Z. 9993–5, adults and young. By the kindness of Dr. L. Stejneger we were able to compare with them three adult males, U. S. N. M., 22526, 27787 and 27788, from La Guayra, Venezuela, collected by

W. Robinson, and recorded by Dr. Stejneger in Proc. U. S. N. M., 1902, **24**, p. 183.

Habitat:— Probably widely distributed throughout Venezuela.

Ameiva ameiva petersii (Cope).

Ameiva pleurotaenia Peters, Monats. Berl. acad., 1871, p. 398, 652.

Description:— Adult male; M. C. Z., 3023. Teffé, Brazil; 1865; L. Agassiz.

Similar to *Ameiva a. ameiva* from which it may be distinguished by the following characters:— Gulars forming a distinct group of considerably enlarged scales in the middle of a band of others slightly enlarged; three rows of brachials instead of two, the scales of which are larger than those of *Ameiva ameiva;* dorsal surface pale-olive tinged with bluish; upper and lateral surfaces of the body sprinkled with black, the spots unlike *Ameiva ameiva,* not being confluent; under part of neck and chin similarly spotted; on each flank a series of whitish spots in vertical rows, the spots more or less surrounded with black; below the series of white spots and on the outer ventrals numerous irregular black blotches; on each side of the body a trace of two broad lateral bands of brown.

Variation:— A female (same data as above) differs from the male in that the dark spots on the back and head are nearly absent. The lateral dark stripes are more distinct than those of the male. On the lower border of these stripes there is on each side a narrow white line bordered with black extending the length of the body. A young male M. C. Z. 3432 (same data as above) is indistinguishable from the young of *Ameiva ameiva* in color except that the general tonality is darker.

Remarks:— The description was made of an adult male that measured one hundred and sixty-two millimeters from snout to vent.

Habitat:— Found along the upper Amazon, probably from the Madeira River westward.

List of specimens examined.

M.C.Z. No.	No. of specimens	Ages	Sexes	Locality	Date	Collector	Remarks
3023	4	ad.	both	Teffé, Brazil	1865	L. Agassiz	Descrip.
3432	1	yg.	♂	Teffé, Brazil	1865	L. Agassiz	
3430	2	ad.	both	Teffé, Brazil	1865	L. Agassiz	
3434	1	ad.	♂	Teffé, Brazil	1865	L. Agassiz	
3348	1	ad.	♂	Teffé, Brazil	1865	L. Agassiz	
3306	3	ad.	both	Manaos, Brazil	1865	L. Agassiz	

Ameiva ameiva maculata (Fischer).

Description:— Adult female; Mus. of Zoöl., Univ. Mich. 45299. La Tigrera, Santa Marta Mts., Colombia; August 4, 1913; A. G. Ruthven.

Closely related to *Ameiva a. ameiva* from which it may be readily distinguished by the following characters:— a single pair of frontoparietals larger than the occipitals which are regular; median occipital as large as the others; preanals granular and numerous, not arranged in a group of some sort as found in *Ameiva a. ameiva;* four rows of brachials covering the entire upper surface of the arm and gradually varying into the granules of the same; shields of the under side of the thighs smaller, more uniform in size than those of *Ameiva a. ameiva;* five rows of these tibial shields distally, fifteen proximally; shields of the under side of thighs also smaller and more uniform in size than those of *Ameiva a. ameiva;* these shields in four rows.

Coloration:— Dorsal surface olive-gray washed with blue-gray on the sides of body and outer ventrals; a series of white spots regularly arranged in vertical rows covering the flanks; these white spots indistinctly surrounded by black which is somewhat confluent forming vertical bars; in the median region running the length of the back, two rows of faintly indicated black spots; ventral surface whitish, sprinkled with blue-gray on the gulars; outer ventral shields spotted with white and dark blue-gray.

Variation:— A young male (Mus. of Zool., U. of M. 45303, from Aguadulce, Santa Marta Mts., collected July 11, 1913, by A. G. Ruthven) is similar to the adult in scutation except that the brachials are not so uniformly small. In coloration it differs from the adult by being generally darker. The white lateral spots are less numerous, the median row of lateral white spots is confluent to form a stripe on each side. The ground tone of the flanks is dark gray instead of light blue-gray. The throat, outer ventrals, and some of the median ones spotted with blue-gray of low intensity.

Remarks:— The description was made of an adult female that measured one hundred and fifteen millimeters from snout to vent.

Habitat:— We have only seen specimens from the Santa Marta Mts., Colombia, but this species may occur elsewhere and probably does.

Ameiva ameiva laeta Cope.

Description:— Adult female; Type M. C. Z. 10537. Rio Janeiro, Brazil; 1866; by L. Agassiz.

Related to *A. a. ameiva* but readily distinguished from it by its large dorsal granules, at least three or four times larger than those of *Ameiva a. ameiva;* the scales of the throat and neck also somewhat larger; instead of forming a median group of enlarged scales, the gulars are arranged in a distinct band across the throat, the scales of which, largest in the mid-region, rapidly diminish in size anteriorly.

Coloration: — Pattern more like *A. a. petersii* than *A. a. ameiva.* General tonality green; a sprinkling of a few dark spots dorsally; on each side a trace of a broad dark band, the upper and lower margins darkest; in the lower dark margin a very sharp and characteristic white line running the length of the body; in the upper margin of the dark band a faint white line; flanks and outer ventrals faintly spotted with dark brown, the latter edged with white.

Variation: — An adult male, M. C. Z. 4250 (Goyaz, Brazil, collected 1867 by Senor Honario) is similar to the female except that the upper white line is absent. On each flank there is a series of white spots somewhat irregularly arranged in vertical rows.

Remarks:— The description was made of an adult female that measured one hundred and twenty-five millimeters from snout to vent.

Habitat:— Southern Brazil as far north as Minas Geraes, and as far west at least as Goyaz.

List of specimens examined.

M. C. Z. No.	No. of speci-mens	Ages	Sexes	Locality	Date	Collector	Remarks
10536–7	2	ad.	♀	Rio Janeiro, Brazil	1866	L. Agassiz	Types. Descrip.
4250	3	ad.	both	Goyaz, Brazil	1867	S. Honario	Descrpi.
1367	1	ad.	♀	Rio Janeiro, Brazil	1866	L. Agassiz	
3028	2	ad.	both	Minas Geraes, Brazil	1865	L. Agassiz	

Ameiva ameiva praesignis (Baird and Girard).

Description:— Adult male; M. C. Z. 9926. Panama (near city); 1904; W. W. Brown, Jr.

Related to *Ameiva a. ameiva* from which it differs considerably in coloration and slightly in scutation. Unlike any of the other races of *Ameiva a. ameiva,* the ground tone of the dorsal surface is pale yellow-brown of a low intensity becoming darker posteriorly. On each flank there is a series of pale straw-color spots arranged in vertical rows. The characteristic feature of this coloration is that each granule is entirely of one color, the effect being a "pepper and salt" mixture.

A narrow stripe of dark straw-color runs the length of the back in the median line. The upper surfaces, sides of tail and appendages are profusely spotted with straw-color varying to bluish. The ventral surface is pale straw-color varying to bluish on the outer ventral. Part of the thighs is spotted with whitish or bluish. In regard to scutation the only real difference from *Ameiva a. ameiva* is in that the brachials are considerably larger and break up proximally into three or four rows of scales. In other specimens these brachial shields are partly fused to form a single series of very wide and short scales.

Variation: — Females may be readily distinguished from the males by their color. For example, M. C. Z. 9924 (same data as above) has no series of lateral spots but instead on each side of the body are two narrow pale straw colored lines bordered narrowly above and below with black. Except for a series of dark blotches on the back, tail, and legs, the dark brown of the posterior part of the body in the male is absent. A young female (M. C. Z. 9938) has not the "pepper and salt" coloration of the adults but instead is olive-brown blotched and dappled with dark brown. On each side is a broad dark brown band edged with white. The blotching on the back and sides form two parallel rows above and below these lateral stripes.

Remarks:— The description was made of an adult male that measured one hundred and eighty-four millimeters from snout to vent.

Habitat:— If the locality Acapulco is correct it is distributed from southern Mexico as far south as Panama where it is very common on the savannah near the city of Panama itself.

List of specimens examined.

M.C.Z. No.	No of specimens	Ages	Sexes	Locality	Date	Collector	Remarks
9924–41	18	all	both	Panama (near city of Panama)	1904	W.W.Brown, Jr.	Descrip.
9942–47	6	all	both	San Miguel Island Panama Bay	1904	W.W.Brown, Jr.	
2727	2	ad.	both	Panama	1872	L. Agassiz	
2728 & 30	2	h.gr.	both	Acapulco, Mex.	1872	L. Agassiz	
7290	1	yg.	♂	Panama	1908	T. Barbour	
3977	3	ad.	both	San Pablo, Panama	1866	A. Lesley.	

AMEIVA BIFRONTATA BIFRONTATA Cope.

Description:— Adult male; TYPE M. C. Z. 10770. Labeled St. Thomas, D. W. I., but doubtless from Venezuela.

Rostral forming an acute angle behind; nostril between the two nasals; anterior pair of nasals just in contact behind rostral; frontonasal a trifle longer than wide, in contact with the loreal; prefrontals broadly in contact; frontal divided transversally in the mid-region, entirely separated from the supraoculars by a single row of granules; a pair of frontoparietals separated from the third supraocular, and part of the fourth by a double row of granules; five occipitals in a transverse row, the outer two slightly posterior to the others, the median scale slightly smaller than the rest; six supraciliaries; four supraoculars, the posterior one very much smaller than the others, the first separated from the loreal; the three posterior supraoculars separated from the supraciliaries by a double row of granules; last two supraoculars separated from the outer occipitals by four or five rows of granules; five and six supralabials; five and six large infralabials; between infralabials and chin-shields a wedge of a single row of granules extending anteriorly to the first chin-shield; chin and throat, except near the folds covered with small scales, the median posterior ones largest but varying gradually into the others; on the area between the two throat folds four or five irregular rows of scales; under side of the body with ten longitudinal and thirty-four transverse rows of plates, the two outer longitudinal rows formed of narrower and rounded plates; preanal plates in a triangle of three large ones cut into in the middle of its base by a small scale, and completed at the basal angles by two larger scales; on the lower arm a double row of antebrachials, the outer widest; on the upper arm a single row partly double, of very large brachials which are continuous with the antebrachials; on the posterior side near the elbow a single row of postbrachials; under side of the thighs covered distally with three and proximately with nine or ten rows of scales; sixteen femoral pores; on the under side of the tibia three rows of plates, outer widest; upper side of the wrist covered with scales forming a regular series of longitudinal rows; inner and outer toe extending approximately the same distance; tail covered with straight, keeled scales; about forty-nine scales in the fifteenth ring from the base.

Coloration: — In the badly faded specimen before us, the upper surface is uniform blue-gray, the under surface milky, the outer ventrals spotted with pure white. But according to the original description (Cope, Proc. Acad. nat. sci. Phila., 1862, p. 67) the color was "above brownish pea-green, tail paler; in young specimen traces of two lateral and one median pale line, sometimes visibly posterior in adults. Occasionally a few brown spots on the rump. External belly plates varied with blue and white. Inferior surfaces yellow."

Remarks:— The description was made of an adult male that measured one hundred and twelve millimeters from snout to vent.

The specimen described is one of the types received in exchange from the Philadelphia Academy. Ruthven (Occ. papers, Mus. zoöl. University Mich., December 27, 1913, no. 2), has discussed the locality data of the types and concludes, "It is highly probable that *Ameiva bifrontata* does not occur on St. Thomas but is a Venezuelan form that is represented in Colombia by *Ameiva divisa* (Fischer)." We may emphasize what Ruthven has said viz., that this lizard certainly does not occur upon St. Thomas, this is proved by the recent carefully made collections. There is no reason to believe that it ever did. It is found in Venezuela, and is probably confined to that state.

Habitat:— Venezuela.

AMEIVA BIFRONTATA DIVISA (Fischer).

Description:— Adult male; M. C. Z. 10573; near La Tigrera, Santa Marta Mts., Colombia; 1913; A. G. Ruthven.

This race differs from typical *bifrontata* only slightly in scutation but decidedly in coloration. As Ruthven (Occ. papers, Mus. zoöl. University Mich., December 27, 1913, no. 2), has pointed out the Colombian race differs from the Venezuelan form in having the series of granules on the inner margin of the supraoculars ending on the posterior corner of the second instead of having the "three posterior supraoculars surrounded with granular scales." This seems to be the only real difference in their scutation.

Coloration: — Dorsal surface olive-gray tinged with bluish; on each side a broad stripe of dark olive-gray bordered above and below by narrow, pale bluish lines; several dark olive-gray spots on the back; head, thighs, and tail tinged with brown dorsally; the head varying to a fleshy color on the sides; dorsal surface of thighs and tail faintly reticulated with black, and spotted with pale olive-gray; ventral surface milky varying to pale blue on the sides; the outer ventrals spotted with pale turquoise-blue.

Remarks:— The description was made of an adult male that measured one hundred and twenty-eight millimeters from snout to vent.

Habitat:— Three adult males from the Santa Marta Mts. were examined, but this race is probable widely spread over the north of Colombia.

AMEIVA RUTHVENI, sp. nov.

Description:— Adult male; TYPE M. C. Z. 9931. Panama (near city); 1904; W. W. Brown, Jr.

Rostral forming a trifle more than a right angle behind; nostril between the two nasals; anterior pair of nasals moderately in contact behind rostral; frontonasal longer than wide in contact with the loreal; prefrontals also moderately in contact; frontal in contact with only the first two supraoculars; a pair of frontoparietals separated, except anteriorly, from the third supraocular by one or two rows of granules; three large occipitals in a transverse row, with a pair of intercalated scales between the outer pair and the frontoparietals; five and six supraciliaries, the third very long; three supraoculars the first in contact with the two anterior supraciliaries, separated from the loreal; two posterior supraoculars separated from the supraciliaries by a single, partly double row of granules; last supraoculars separated from the outer occipitals by two, partly three rows of granules; six and seven supralabials; five and six large infralabials; between infralabials and chin-shields a wedge of two rows of scales, extending anteriorly as far as the middle of the second chin-shield. Chin and throat covered with granules, a band of larger ones extending across the middle, a group of ten or a dozen very large ones in the mid-region of which no one scale is much larger than another; on the area between the two throat folds a single row of large scales; under side of the body with eight longitudinal and twenty-eight transverse rows of plates; preanal plates in a median longitudinally arranged pair and a marginal transverse pair, the former larger. On the lower arm one row of very large antebrachials becoming double proximally; on the upper arm one row of very large brachials continuous with the antebrachials; on the posterior side a group of small postbrachials; under side of the thighs covered distally with three rows of very large plates resolving proximally into six or eight rows; twenty-four and twenty-five femoral pores; on the under side of the tibia two, part three rows of very large shields; upper side of the wrist covered with three large scales and several smaller ones; inner and outer toe reaching approximately the same point; tail covered with keeled scales, the keels parallel with the longitudinal axis but the scales oblique; each whorl of caudal scales raised strongly on the sides, giving the tail a peculiar flattened appearance; about twenty-two scales in the fifteenth ring from the base.

Coloration: — Dorsal surface dark olive-brown, on each side, covering nearly the entire surface of the flanks a series of large vertical bars of black; these spots somewhat confluent, with the between spaces gray instead of brown like the back; indistinct mottlings of gray on the upper surfaces of the legs; ventral surface milky tinged with straw-color; outer ventrals, under surfaces of the legs reticulated with blue-gray.

Variation: — A half grown male M. C. Z. 9932 is not so distinctly marked as the adult, but the general pattern is the same.

Remarks: — The description was made of an adult male that measured one hundred and thirty-one millimeters from snout to vent.

Habitat:— Only known from near the city of Panama where it is found with *Ameiva a. praesignis* in the savannah of Panama.

Ameiva festiva (Lichtenstein).

Description:— Adult male; M. C. Z. 2723. Turbo, Isthmus of Darien; 1871; G. A. Maack.

Related to *Ameiva ruthveni* from which it may be distinguished by the following characters: — frontonasal separated from the loreal by the posterior nasal; last supraocular separated from the outer occipitals by four or five rows of granules; no distinct band of enlarged gulars extending across the throat but all diminishing in size from the centre where there is a group of six or eight very large scales, one being four or five times larger than any of the other scales; preanal plates in a triangular group of three large rotund plates, anterior largest; postbrachials in a single row of very large scales; nineteen and twenty femoral pores; tibial shields in only two rows of very large plates, those of the outer largest; upper side of the wrist covered with six or eight subequal scales; the whorls of caudal scales not raised laterally so strongly as those of *Ameiva ruthveni.*

Coloration: — Although somewhat faded, the coloration seems to be distinctly different from that of *A. ruthveni;* dorsal surface olive-brown, two irregular black bands running the length of the flanks, the lower border of these bands strongly notched; a narrow somewhat broken band of olive-gray running down the middle of each of these bands; ventral surface blue-gray tinged with yellowish; two or three longitudinal series of dark brown spots on the ventrals; the outer spots very irregular and attenuated; shields of the under side of thighs bordered partly or wholly with dark blue-gray.

Variation: — The series of eight adult males from several localities show a considerable degree of variation in coloration. One specimen, M. C. Z. 9581 (from Honduras, collected in 1907 by E. C. Post) has a very wide stripe of olive down the middle of the back, making the lateral bands proportionally narrower than those of the specimen described. In another specimen M. C. Z. 9568 from Nicaragua the same general pattern as the typical one is present but the tonality is much darker, the ground color being a very dark olive-blue. The dark lateral stripes are not at all olivaceous. There are two, instead of one, bright bluish gray stripes on each side.

Remarks:— The description was made of an adult male that measured one hundred and eight millimeters from snout to vent.

Habitat:— Widely distributed throughout Central America from the Isthmus of Darien to southern Mexico.

List of specimens examined.

M.C.Z. No.	No. of specimens	Ages	Sexes	Locality	Date	Collector	Remarks
2723	2	ad.	♂	Turbo, Isth. Darien	1871	G. A. Maack	Descrip.
9585	1	ad.	♂	Matagalpa, Nicaragua	1910	W. B. Richardson	
9568	1	ad.	♂	Matagalpa, Nicaragua	1910	W. B. Richardson	
10773	1	ad.	♂	Matagalpa, Nicaragua	1910	W. B. Richardson	
10774	1	ad.	♂	Matagalpa, Nicaragua	1910	W. B. Richardson	
9580	1	ad.	♂	Honduras	1907	E. C. Post	
9581	1	ad.	♂	Honduras	1907	E. C. Post	

Ameiva undulata undulata (Wiegmann).

Description:— Adult male; M. C. Z. 7473. Colima, Mexico; Barbour collection.

Rostral forming a trifle more than a right angle behind; nostril between the two nasals; anterior pair of nasals in broad contact behind rostral; frontonasal longer than wide, separated from the loreal by the posterior nasal; prefrontals fairly in contact with the first two supraoculars; a pair of frontoparietals in contact with the first two supraoculars; a pair of frontoparietals in contact with the third supraocular for nearly its entire length; three subequal occipitals in a transverse row; five and six supraciliaries, the second from the anterior end very much larger than the others; three supraoculars, the first in contact with the two anterior supraciliaries and loreal; two posterior supraoculars separated from the supraciliaries by a single row of granules; last supraocular separated from the outer occipitals by two or three small scales; six and seven supralabials; five and six large infralabials; between infralabials and chin-shields a wedge of one or two rows of small scales extending anteriorly to the first chin-shield; chin and throat covered with large granules becoming larger towards the centre, a longitudinal row of four larger ones in the mid-region; on the area between the two throat folds two or three rows of

scales, the median row largest, the scales differing in size from those in the middle; under side of the body with eight longitudinal and twenty-eight transverse rows of plates; preanal scales irregular, a marginal pair and two or three anterior scales the largest; on the lower arm a double row of wide antebrachials, outer row the widest; on the upper arm a single row of large brachials continuous with the antebrachials; on the posterior side a single row of large postbrachials; under side of the thighs covered distally with three, proximally with six or eight rows of scales; seventeen and nineteen femoral pores; on the under side of the tibia three rows of shields; upper side of the wrist covered with scales forming a series of longitudinal rows of two or three scales each; inner and outer toe extending to approximately the same distance; tail covered with keeled scales in rings, the scale and the keel being straight or slightly oblique on the sides; about twenty-two scales in the fifteenth ring from the base.

Coloration: — Dorsal surface dark olive-blue; on each side of the body a series of indistinct vertical stripes of black, somewhat confluent ventrally and spotted with indistinct blue blotches; ground tone of ventral surface steel-blue washed with straw-color about the anal region and on the under surfaces of legs.

Remarks:— The description was made of an adult male, the only specimen examined, that measured seventy-four millimeters from snout to vent.

Habitat:— Apparently confined to southern Mexico.

Ameiva undulata quadrilineata (Hallowell).

Ameiva pulchra Hallowell, Proc. Acad. nat. sci. Phila., 1860, p. 483.
Ameiva gabbiana Cope, Journ. Acad. nat sci. Phila., 1876, ser. 2, **8**, p. 117, pl. 28, fig. 3.

Description:— Adult female; M. C. Z. 9546. Chinandega, Nicaragua; 1910; W. B. Richardson.

Similar to *Ameiva u. undulata* from which it may be distinguished by the following characters:— a pair of frontoparietals nearly separated from the third supraocular by one or two rows of granules; three subequal occipitals, the median divided longitudinally; last supraocular separated from the outer occipitals by two or three rows of granules; chin and throat covered with small granules, an indistinct band of large ones extending across the middle, in the mid-region a group of eight or ten large scales varying into the others; preanal plates irregular, a longitudinal series of three pairs; on the posterior side of the upper

arm two irregular rows of postbrachials; on the under side of the tibia two rows of large plates and a few scales of a third row.

Coloration:— Dorsal surface olive-gray; two narrow white bands on each side, the uppermost very indistinct; the dorsal surface between the two upper lines marbled with black; a series of heavy black marblings on each side, the blotches very irregular in shape but evenly spaced; dorsal surface of tail and legs faintly mottled with black; ventral surface milkish or pale blue.

Variation:— A male M. C. Z. 9540 (same data as above) differs from the female slightly in coloration. The white lateral lines are absent and the dark mottlings of the flanks are very distinct because the spaces between them are bluish instead of olive-gray. The general tonality of the dorsal surface is brownish instead of blue-gray.

Remarks:— The description was made of an adult female that measured seventy-eight millimeters from snout to vent. Only two specimens were examined.

Habitat:— Our specimens come from Chinandega, Nicaragua, but this race probably has a wider distribution.

Ameiva undulata parva, nov. subsp.

This local race shows relationship to both *A. u. undulata* and *A. undulata quadrilineata* but may be distinguished from both in having a short stocky head, and in having the gular scales except for the median group very small.

Description:— Adult male; Type, M. C. Z. 5831. Guatemala.

Similar to *A. undulata quadrilineata* but differing in scutation as follows: — throat and neck covered with very fine uniform granules, a median group of a dozen or fifteen large scales varying into the others; postbrachials in three rows, median largest; tibial shields in three rows.

Coloration:— Much browner in tonality than *A. undulata quadrilineata,* having also more dark mottlings on the sides and on the back; the spaces between the black blotches brownish, not blue; ventral surface straw-color instead of blue.

Variation:— A female (same data as above) has the white lateral lines bordering a dark band on each side. A series of bluish spots arranged at regular intervals extends the length of this band. Several series of similar spots below these bands. A young specimen (same data as above) is similar to the female except that the entire flanks are blackish and that there are no spots present on the sides. The lower white line, however, is somewhat broken into spots.

Remarks:— The description was made of an adult male that measured seventy-four millimeters from snout to vent.

Habitat:— Apparently confined to Guatemala, and perhaps only found locally; the specimens before us are labeled simply Guatemala.

Ameiva edracantha Bocourt.

Since it is impossible to examine a specimen of this species we are obliged to use this condensed form of the original description (Bocourt, Ann. sci. nat., 1874, ser. 9, **19**, art. 4).

Description:— Nostril between the two nasals; frontal proportionally large; frontoparietals united (perhaps abnormally); three occipitals; three supraoculars; six supraciliaries; supralabials and infralabials each five, the infralabials more attenuated and extending further behind; gular scales arranged like those of *A. ameiva*, but larger; on the portion between the two throat folds two or three rows of enlarged scales; under side of body with eight longitudinal rows of scales; a single oval preanal plate surrounded by small scales; on each side of this region six or seven spinose plates; on the upper arm a single row of brachials; under side of thighs covered with three rows of shields; twelve or thirteen femoral pores; on the under side of the tibia two rows of scales; caudal scales keeled.

Coloration:— Ground color olive-green, five yellowish longitudinal lines, the median beginning at the occiput and ending before the thighs, the second and third on each side running the length of the bodies, finally those of the flanks are a little less distinct and often broken; back and side with transverse dark brown lines; limbs and tail spotted with the same color; ventral surface yellowish.

Ameiva septemlineata A. Dumeril.

Description:— Half grown male; M. C. Z. 8949. Rio Chan Chan, Ecuador; S. N. Rhoads.

Rostral forming about a right angle behind; nostril between the two nasals; anterior pair of nasals broadly in contact; frontonasal separated from the loreal; prefrontals separated by two intercalated scales; frontal formed by three or four scales continuous with the frontoparietals, which are formed of four or five scales in two longitudinal rows separated posteriorly from each other by a wedge of four scales, and separated from the supraoculars by one or two rows of granules; three large occipitals in a transverse row surrounded pos-

teriorly by many small ones; four supraoculars, the second divided longitudinally into three parts, the last two considerably larger than the anterior ones; two posterior supraoculars separated from the supraciliaries by a single row of granules; six large supralabials; five infralabials; between infralabials and chin-shields a wedge of a single row of scales extending anteriorly to the second pair of infralabials; chin and throat covered with minute granules, a band of slightly larger ones extending across the middle; on the area between the two throat folds a single row of very large scales; under side of the body with eight longitudinal rows, outer row much narrower than the others and twenty-six transverse rows of plates; a pair of large preanal plates arranged one ahead of the other in the mid-region and surrounded by a series of small scales; on the lower arm a single row of large antebrachials becoming double proximally; on the upper arm a single row of large brachials continuous with the antebrachials; on the posterior side near the elbow joint a single row of large postbrachials; under side of the thighs covered with three rows of large plates breaking up proximally into six or eight rows; fourteen femoral pores; on the under side of the tibia two rows of scales, outer about twice as large as the inner; upper side of the wrist with one or two transverse series of large scales; outer toe extending about as far as the inner; tail covered with straight, keeled scales, dorsally strongly keeled; about seventeen scales in the fifteenth ring from the base.

Coloration:— Dorsal surface dark olive-brown; on each side a dark brown or blackish band, bordered above and below by a light stripe, the three stripes running the length of the body from the eye to the middle of the tail; ventral surface pale blue-gray suffused with straw-color.

Remarks:— The description was made of a half grown male, the only specimen examined, that measured eighty-six millimeters from snout to vent.

Ameiva bridgesii (Cope).

Description:— Adult male; M. C. Z. 6988. Gorgona Island, Colombia; 1905; W. W. Brown, Jr.

Rostral forming about a right angle behind; nostril between the two nasals; anterior pair of nasals broadly in contact behind rostral; frontonasal a trifle longer than wide separated from the loreal; prefrontals keeled, separated by six or seven intercalated, keeled scales forming part of a series which divides the frontal and frontoparietals; frontal formed of about ten irregularly arranged keeled scales; frontoparietal and occipitals formed of numerous irregularly arranged, small keeled scales, the two scales in the median occipital region largest;

two keeled supraoculars preceded by a group of five or six small keeled scales in the place of an anterior supraocular; the two large supraoculars separated from the supraciliaries by a double row of granules; last supraocular separated from the outer occipitals by four or five rows of granules; six or seven large supralabials; five infralabials; between infralabials and chin-shields a wedge of a single row of small scales together with several large scales extending anteriorly to the first chin-shield; chin and throat covered with granules of varying size, a broad band of slightly larger ones extending across the middle; on the area between the two throat folds three or four rows of small scales, the median ones about three times as large as the gulars, all irregularly arranged; under side of the body with six longitudinal and twenty-six transverse rows of scales; three somewhat rounded preanal plates arranged in a triangle, the anterior one much larger than the others; on the lower arm a single row of large antebrachials extending its entire length on the lower arm two or three rows of very small, irregular keeled scales; on the posterior side near the elbow joint two or three rows of postbrachials, median row formed of very large ones; under side of thighs covered with three rows of large scales ending abruptly in granules; twenty-four femoral pores; on the under side of the tibia two rows of scales, the outer about twice as large as the inner; on the upper side of the wrist between phalanges and joint two transverse rows of large scales; outer toe extending a little further than the inner; tail covered with straight keeled scales, dorsally strongly keeled; about nineteen scales in the fifteenth ring from the base.

Coloration: — Dorsal surface dark olive-green; on each side a dark brown band, bordered above and below by a light blue-gray stripe, running the length of the body; a pale median line not very distinct running from the occipitals to the tail; ventral surface dark blue-gray suffused with yellow on the abdomen.

Variation: — A female (same data as above) is similar to the male except that the pale median stripe is brighter and wider than the other pale lines, a condition which is reversed in the adult male.

Remarks:— The description was made of an adult male that measured one hundred and eighteen millimeters from snout to vent.

Cope's type of *Holcosus bridgesii* (Acad. nat. sci. Phila. No. 9651) which we have examined is in fair preservation. It is rather less than half grown. The locality slip which accompanied it bore simply the word "?Ecuador." In the original description (Proc. Acad. nat. sci. Phila., 1868, p. 306–307) curiously enough no mention whatever was made of habitat or locality. An examination of a series of this species and a comparison with *A. septemlineata* and *A. undulata* makes clear the relationship of this form. It does not seem at all advisable to recognize Cope's monotypic genus.